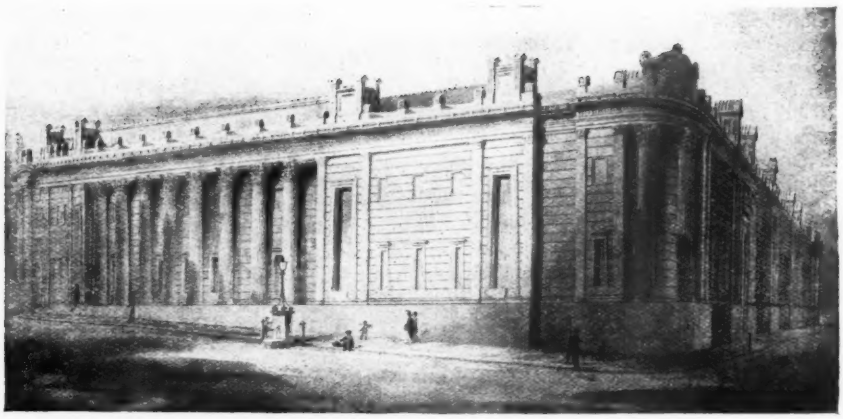


BANK OF ENGLAND (FIRST DESIGN). Exterior view from N.E.

Life and Work a Century Ago

An Outline of the Career of Sir John Soane, R.A., F.R.S., F.S.A.

Professor of Architecture in the Royal Academy
Founder of the Sir John Soane Museum, etc., etc.*

BY ARTHUR T. BOLTON [*F.*], F.S.A., CURATOR OF SIR JOHN SOANE'S MUSEUM

SPEAKING to architects it should not be necessary to explain who the architect and owner of No. 13, Lincoln's Inn Fields was, nor why he should have established a centre for architectural study and research.

A century, however, is a good while ago, and so it seemed to me that it would be interesting if I endeavoured to carry your thoughts back for that distance of time and, so far as it is possible, recall the times and circumstances amidst which John Soane lived and worked. The Muse of History has many and strange ways of vindicating herself, but I shall leave to others any modern applications that his story may seem to suggest.

John Soane was born at Whitchurch, near Reading, in 1753, and came to London in 1768, the year in which the Adams began the Adelphi. Robert Adam (1728–1792) had returned from Italy January 1758 when Soane was five years old, and had therefore already been in practice in London for ten years. As Robert Adam died in 1792 the young man witnessed twenty-four years of Adam's career in London. We all agree in a general way that early impressions have a most important influence, and in the case of Soane there has been a good deal of misunderstanding, due to a failure to realise the conditions under which he lived and worked.

In a general way architects are all aware that the Georgian period is pretty sharply divided into an early and late style, and that this later period is known as Adam. Evidently, therefore, something in the nature of a revolution in taste was taking place at the very time that Soane came up as a young man to George Dance's office as a pupil. As a matter of fact, 1770 may be taken as a date when imitation became general, and from that time up to the opening of the great war in 1793, work in the Adam style was general.

Of course, it was not an unchallenged supremacy. There was the old Palladian School, relying on Inigo Jones and Wren in theory, but in practice really influenced by James Gibbs (1683–1754), the immediate leader before Adam. The church of St. Martin's in the Fields (1722–26) was a standard by which, as James Elmes has pointed out, a whole school judged current practice. Sir William Chambers, R.A., was engaged in 1769 in founding the Royal Academy, with Sir Joshua Reynolds as first president. He was bitterly opposed to Adam innovations, as well as to the Greek influence of James Stuart (—1788), who in 1762 published

* A paper read before the Leicester Society of Architects, 3 Feb., 1922, by Arthur T. Bolton [*F.*], F.S.A., Curator of Sir John Soane's Museum.

the first volume of the *Antiquities of Athens*. Neither Adam nor Stuart became members of the Royal Academy. In 1772, however, a new star appeared, James Wyatt (1746–1813), securing with his Pantheon in the Oxford Road (1770-72), at one bound, an almost European reputation. The Academy practically at once elected him as a member, and he was from this time the leading rival of Robert Adam, as James Stuart carried out very little actual work.

Young Soane was almost at once introduced into this circle of the leading architects of the day. George Dance, R.A., his first master, was son of old Dance, who had built the Mansion House, in despite of the opposition of the influential circle that surrounded Lord Burlington at Burlington House. Dance was a master carpenter, or shipwright, but he had evidently determined that his two sons should have all the advantages that education and study abroad could give.

George and his elder brother, who was a painter, were in Rome together, and from a letter home to his father we learn that George competed for the prize at the Parma Academy, because he distrusted the Scotch influence at Rome, evidently referring to Robert Milne's (1734–1811) recent success (1758). Dance was successful at Parma, and was elected a member of that Academy, as was also Soane later on.

Dance succeeded his father as City architect, and had as his chief assistant a certain James Peacock, a man of some character, and possessed of an analytical power of thought.

It seems most probable that it was through Peacock that young Soane was brought to London. The exact facts are not known, but I think it likely that, the boy's father being a master bricklayer or small builder, Peacock may have come across him on some work and early recognised his promising abilities. The boy was handsome, quick, enthusiastic, and possessed of considerable charm of manner, as well as of unlimited power of work. He was to suffer as time went on from certain counterbalancing qualities, but, if he made certain lasting enmities, he held lifelong friendships with equal tenacity. Many of the current stories about Soane appear to be very idle tales, such as become current about all men who arrive at high distinction.

Soane only remained two years with Dance because he thought he recognised in his master too much of the artist and too little of the practical architect. He accordingly arranged to transfer himself to Henry Holland, jun., son of the well-known builder, who had been employed by Robert Adam and other architects.

The friendship, however, with the Dances remained lifelong, and it would even appear that the master was inclined to depend on the brilliant pupil. In 1802 Dance writes to Soane about a house, which he is very keen on, but it is making him miserable, and " would you let me look at your plan (Tyringham). I want to steal from it."

Dance in certain crises in Soane's life writes to his former pupil in a tone of affectionate warning, which proves the permanence of their relationship. Almost the last act of Soane's life was that, at the age of 83, he travelled down to his master's son's house to arrange for the purchase of the Dance Cabinet, now in the Museum, and containing his master's original drawings. As an architect George Dance, R.A., has been, I fancy, rather misunderstood. He was an eclectic, with a tendency to seek after new forms of expression. The position, always a dangerous one, was especially so in his case, because he certainly lacked concentration in his pursuit of architecture. Ultimately he gave it up, and produced the famous series of portrait drawings, by which he is still known. His masterpiece was Newgate Prison (1770) one of the most expressive buildings ever built. The origin of the design seems to me to trace back to San Michele's work, and to be the result of a purposeful elimination of features. I do not personally regard it as derived from Piranesi's Carceri studies, as has been suggested. Another powerful design is the interior of the Great Room at Lansdowne House, which, though actually carried out by Robert Smirke, owes its special features to Dance. It is not clear whether Soane actually worked on the Newgate design, but pending its partial rebuilding after the Gordon Riots, in 1780, Soane, who had just returned from his travels, had meetings with Dance and Peacock " about the Newgate business," which seems to show that he had probably been connected with it before.

Although Soane was only fifteen when he came to London, and was quite poor, he began apparently at once to buy books, at first chiefly on mathematical subjects. There are in his library books with his name and date, the earliest being " Whitechapel, 1767," possibly a record of some early trip to London. This habit of buying books continued to his dying day, so that at his death he had 8,000, of which 4,000 deal with architecture and the allied arts.

With Henry Holland Soane seems to have been very happily placed, and I imagine that he must have arrived at a good position in the office. He speaks of being engaged on Claremont, an important house of the period, then building for the famous Lord Clive (died 1774), on an estate which had belonged to the late Prime Minister, the Duke of Newcastle. There was an oblong room, which by columns was formed into an oval with an eliptic domed ceiling, and this was apparently designed by Soane, while with Holland. The little façade in Whitehall, next to the Treasury, added by Holland to an older house, has much in common with Soane's ideas and work. Particularly the pupil admired the suite of rooms at Carlton Palace, built by Holland for the Prince of Wales (after George IV.), in 1786. On the practical side Soane came in touch with building and surveying for prices, and began to collect

priced bills and data, which ultimately led to his becoming an acknowledged expert in such matters. Only his amazing energy and power of work could have enabled him to deal successfully with so many subjects, as his varied official and private duties later on required. He joined the newly started Academy Schools, and this brought him into touch with Sir William Chambers, R.A., the all powerful Treasurer. Somerset House was begun in 1776, and was hardly completed at the time of Chambers' death in 1796.

Somerset House, of course, has never been really completed. The Academy was transferred there in 1780, the year in which, as I have mentioned, Soane returned from his travels. There was some trouble with settlements before Chambers's death, and Dance and Soane were called in as referees. I want you to realise the nature of the influences to which Soane was subjected, because it will enable you to understand the originality of the Bank, the first part of which was completing in 1796.

At the Academy Soane won, in 1772, the Measured Medal for a drawing of the façade of Inigo Jones's Banqueting House in Whitehall. He then, in 1774, competed for the Gold Medal, but by a mistake in the day of delivery this first design was disqualified. Nothing daunted he tried again, and won the prize in 1776. While engaged on this design one of his companions arranged a birthday party on the river. Soane at the last moment excused himself, owing to the unfinished state of his drawings, and as one of the party, who could not swim, was drowned, Soane, who was equally unqualified, considered that this devotion to his work had saved himself from a watery grave. Later on in the same way a fear that he would not be able to do adequate work led him to give a casting vote against extending the voyage of himself and his party from Sicily to Athens. This was particularly unfortunate as it turned out, but it illustrates the practical side of his character and his determination to secure lasting results, based on serious work, from his opportunity of travel.

The night, 10 December 1776, on which Soane received the Gold Medal was that on which Sir Joshua delivered the seventh of his thirteen famous "Discourses." Fifty years later a fellow student, who had been present, recollected how full of praise, encouragement, and hope had been the words of Reynolds to the winner. Sir William Chambers was as much pleased, and introduced young Soane to the King, and, before Soane's departure, 18 March 1778, gave him a copy of a long letter of advice, which in fact is an outline of Chambers' own attitude towards architecture, as we see it at length in the *Civil Architecture* (1759), so well known to all students.

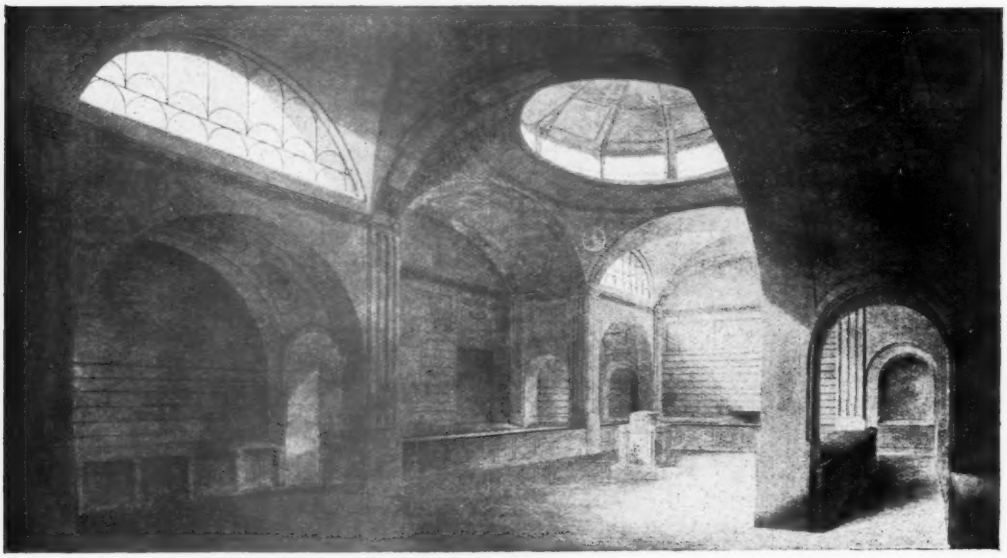
Despite this powerful orthodox influence Soane was responsive to the opposing school of Robert Adam, James Wyatt, George Dance, and Henry Holland.

The companion with whom he set out was Robert Brettingham (born 1750), a nephew of Mathew (died 1778 ?), who may be described as a Palladian of the earlier school of Burlington, Kent, and Ware. They passed through Paris, and Soane's passport for Italy is signed by Louis XVI, as that for his return was by the famous Cardinal Bernis, the French Ambassador at Rome.

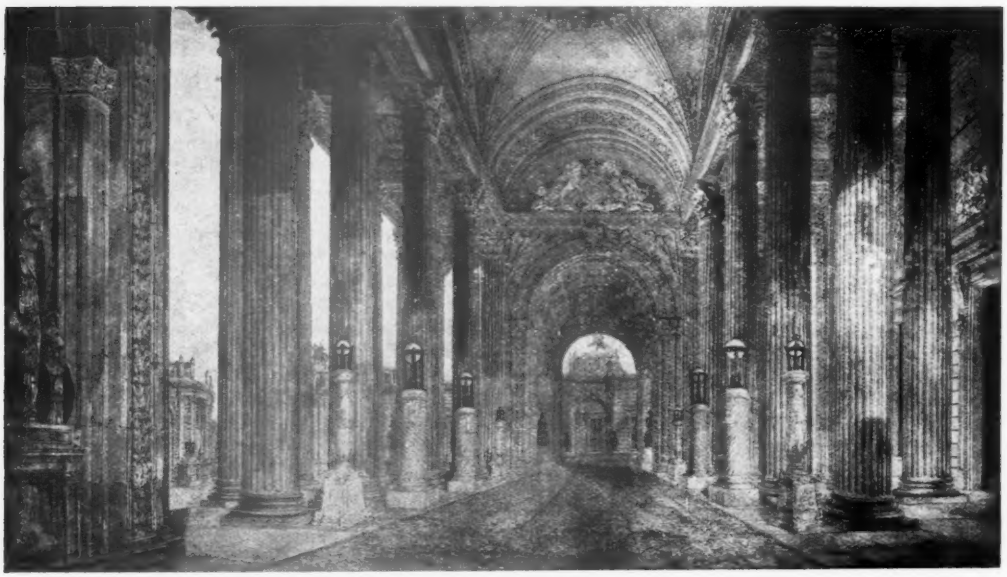
King George's well-known interest in "My Academy" gave a prestige to the early travelling students, which must have been of great service. Consequently at Rome Soane was aided by Sir William Hamilton, the Bishop of Derry, afterwards first Marquess of Bristol, and by Thomas Pitt, afterwards Lord Camelford. The circle of friends at Rome, however, did not distract Soane's resolute attention to work. Forty years later his son John, writing from Rome (1819), notes the extraordinary labours of Taylor and Creasy, and adds that no one had done so much work since his father's own day. Soane, in fact, measured the Pantheon and other great buildings, besides making a most complete and detailed set of drawings of the Temple at Tivoli, which Dance had also previously studied.

All his life Soane was distinguished by a certain power of mind, a difficult quality to describe, or analyse. This was a link with the witty, though eccentric, Bishop of Derry, and they became close friends and travelled together. The association was valuable to Soane, who thus found himself in a society learned in the classics and in the history of art. With a party of gentlemen of position Soane, as a draughtsman, made a tour in Sicily and as far as Malta, but the expedition turned back before it reached Greece. This proved to be unfortunate, because Soane's actual first-hand knowledge of Greek work was limited to Paestum and the Sicilian remains, and he never had the advantage of seeing the Parthenon. What he saw, however, was enough to establish the Grecian Doric as a first favourite in his mind. This, combined with the influence of the Abbé Laugier's *Essai sur Architecture* (Paris, 1755) drew his mind still further away from the orthodox school of Sir William Chambers, R.A. Of the *Essai* to which I refer there are no less than eleven copies in the Soane, and I judge that it was Soane's practice to give copies to his favourite pupils. The idea of the book is a Puritan reformation of the Jesuit style that had prevailed in Europe during the times of Louis XIV and XV. It preaches the everlasting "return to nature," which in this case meant back to the earliest columnar form of building. The pure columnar order of the temple is to be used, without basements, domes, or composite features. The story is a very old one, but it requires to be recorded here because this influence ultimately led Soane into some of his most serious difficulties.

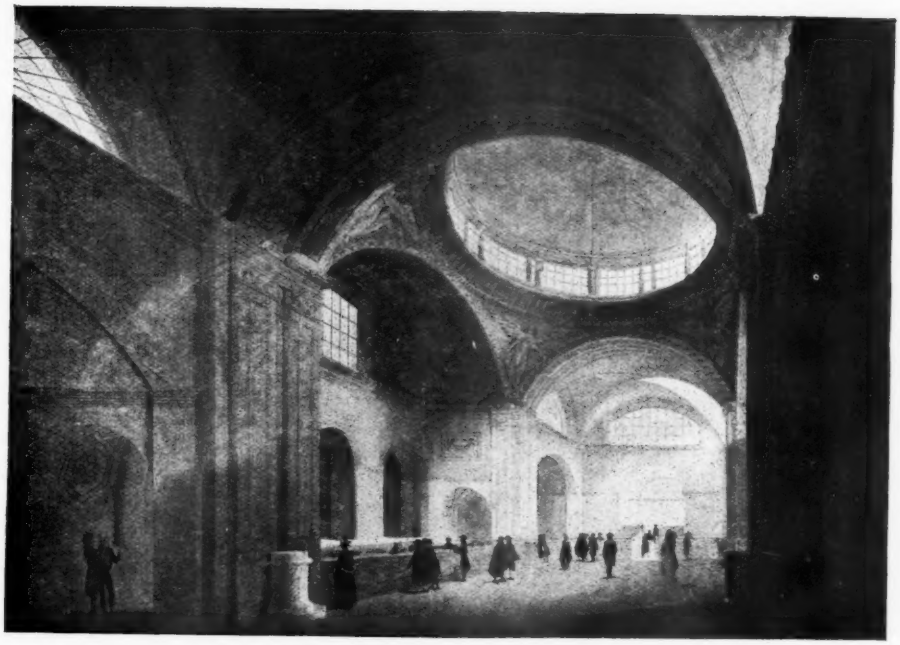
The young student should have been three years abroad, for which he was allowed £60 a year and



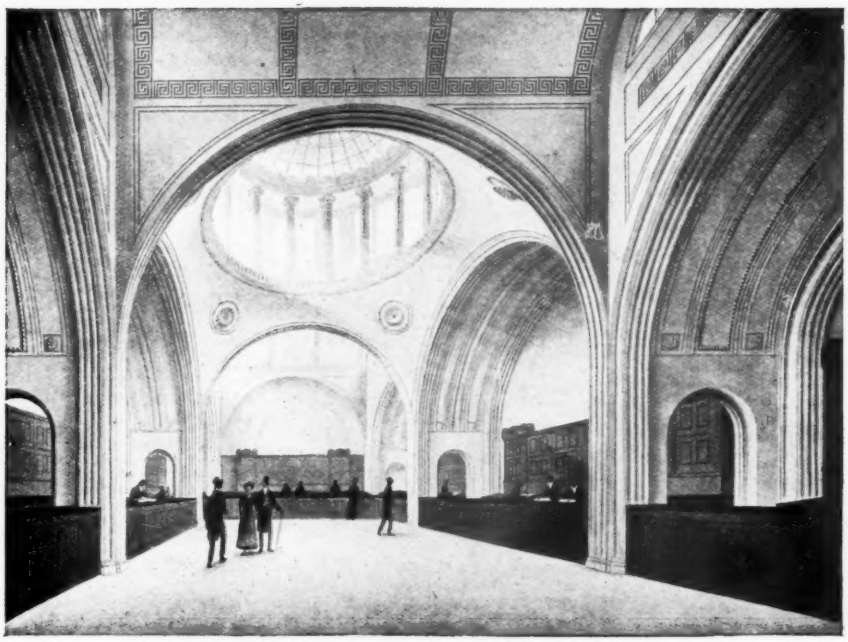
BANK OF ENGLAND (1792). View of the Bank Stock Office looking North, 1798.



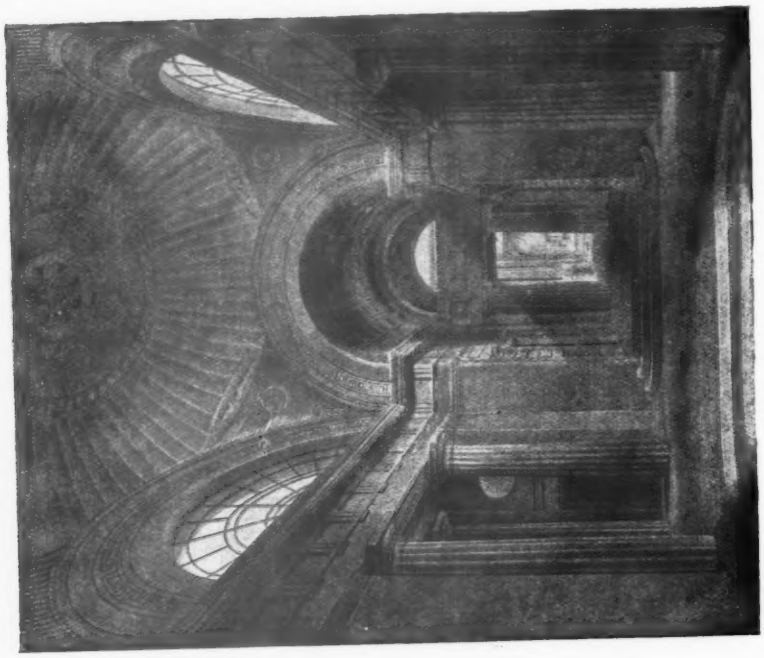
INTERIOR OF THE PORTICO OF A PALACE FOR THE KING. Design dated 1821 and 1831. Drawn by Joseph Gandy, A.R.A. Hung in the Model Room of the Soane Museum.



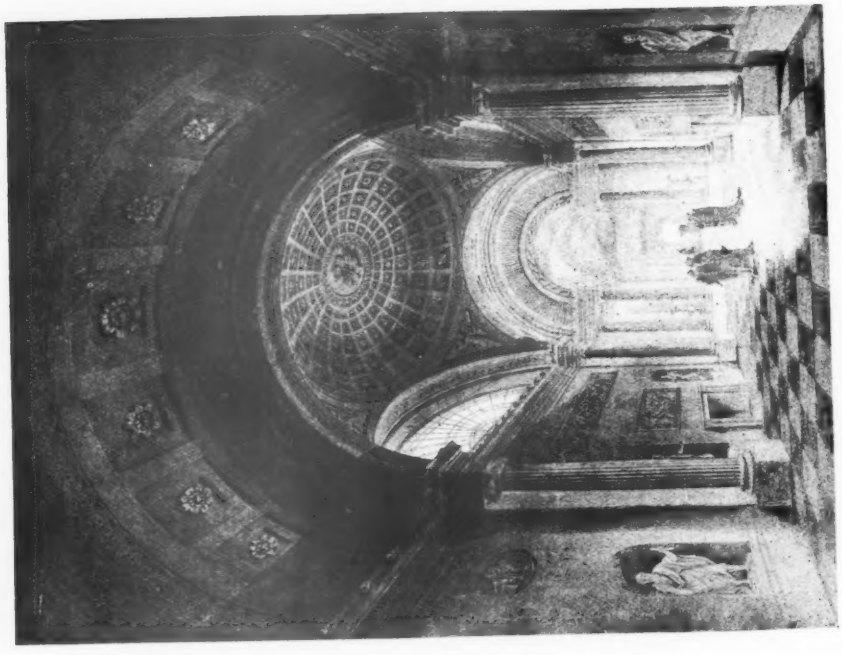
BANK OF ENGLAND. CONSOLS OFFICE.



THE BANK OF ENGLAND (CONSOLS OFFICE). Lecture Diagram.



BANK OF ENGLAND. VESTIBULE, PRINCES STREET. Erected 1804.



VESTIBULE, HOUSE OF LORDS (1794 design).

the same sum for the journey out and back. Unfortunately, the Bishop, who had succeeded to the title and returned to England (1779), wrote urgently in 1780 to Soane inviting him to return at once to build him houses, both at Downhill in Ireland, and Ickworth in Suffolk. Soane, it may be remarked, was combining with his measured study of buildings in Italy the production of important designs. Thus he sent home and exhibited at the Academy a vast design for a British Senate House, and he obtained the particulars to compete for the Academic Medal at Parma. In the same way he had already made some designs for the Bishop. The temptation, thus addressed to him in 1780, when he had been away only two years, struck at the practical element in Soane's nature; the offer seemed to be the certainty of a secure position and a great career. He returned therefore in haste, abandoning plans of work at Vicenza, etc., and crossed over at once to Ireland, where he stayed six weeks with his patron. The Bishop, however, was a man of very variable temper, and the unfortunate student, burning to get to work, found himself dancing attendance on an amateur architect. All his life Soane was to suffer from a kind of nervous crisis or panic, known to his friends of this time as " Your fancies." Probably this tendency was exasperated by his habitual condition of overwork, but to a considerable extent it was constitutional. A great physician looking at his portrait (1829) by Sir Thomas Lawrence, P.R.A., remarked that it was " a suffering face." It can easily be understood therefore that Soane's patience now gave way, and he asked leave to return to England. He crossed over to the North and visited some of the friends he had made in Rome, and then returned to London to start unaided for himself.

The breach with the Bishop was final, conciliation was found of no avail, and the loss was great on both sides, as the patron got into hopeless difficulties and the architect lost a great opportunity. Soane, who looked back on his time in Italy as the happiest of his life, saying that " it passed like a dream," never forgave the Bishop. In writing his *Memoirs* in 1833, 53 years later, he sets it all out in detail. It was, of course, a thoughtless and wrong interference with the career of a brilliant student of great promise. On the other hand, Soane must have felt that he had departed from his strict duty in not fulfilling the three years, and thus at the end of his life he must, probably from some misconception of what a Professor of Architecture in the Academy could admit, have given currency to the idea that he went to Italy in 1777, making three years. The actual date I have established from his contemporary note books was, definitely, 18 March 1778. This day he was accustomed to keep and look back upon, often with some comment, contrasting his happiness then and at the moment of writing. It is also significant that he fixed 24 March for the presentation of the Gold Medal in 1835, and also appointed it as the distribution day of his fund for distressed architects.

Soane's life is full of very human touches. A great fighter, he nevertheless felt deeply the opposition he raised, and he never entirely learnt to refrain from making public his misfortunes and grievances. He had that craving for sympathy which is at once a source of strength and weakness in the artist.

Indignant, but sorely depressed, Soane arrived in London, and proceeded to take rooms in Margaret Street, close to Portland Place, where James Adam was carrying on his great building scheme (1778–80). James Wyatt had built himself a house on land belonging to Lord Foley, whose great house blocked the southern end of Portland Place. Wyatt's house still exists, and during his lifetime (he died 1813) it was rather a centre for architects to settle round. Even as late as 1827 Sir Charles Barry moved to Foley Place from his first address in Ely Place, Holborn (1820).

The year 1780 was a time when great courage must have been needed to start a practice. The war had been a great disaster, the country was disturbed and uneasy, as the Gordon riots soon showed. The tottering personal rule of the King, through Lord North's Ministry (1770–82), could obviously not last much longer, and fresh men would be required if peace was to be re-established.

A subject of the day was the building of penitentiaries, the outcome of Howard's labours and crusades. Soane decided to compete for two, and chose as his motto " *Mihi turpi relinqui*," and ever after, in times of trial, he recalled the device as a watchword. Dance, for instance, writes to him " Remember your motto," on an occasion when his pupil stood in need of encouragement. Nothing came of Soane's effort, and he ever after avoided competitions. He could not, it is true, from his official position actually denounce them, but, as one of his friends pointed out, his practice showed his real beliefs in the matter.

About this time, however, the Eastern Counties, and Norfolk in particular, were doing well in agriculture. The friends Soane had made employed him on small house building and alterations, and he soon enjoyed a country practice, which only his indomitable energy enabled him to carry on.

His office hours were always twelve—7 to 7 and 8 to 8 summer and winter—and on his journeys to his works he used to cover great distances on horseback or driving. He records sometimes " passing through mountains of snow," travelling all night and day, in the intervals of hard work at home on his drawings. Much of his work was done on the same lines that Robert Adam had followed. Soane had a succession of superior mechanics, who acted as foreman and clerk of works in one, directing master tradesmen or individual labour, the work being often paid direct through himself. At

the same time the idea of quantities was beginning to be developed, because schedules of work were prepared and priced by the architect, forming a detail estimate. Selected tradesmen then offered for the work, establishing a schedule of prices, after which there was some kind of final measurement. It sounds extremely complicated, and led to boxes of papers, records of hours, work, and cash payments, and it seems to me that it was only possible at all with an architect of Soane's special gifts. It explains the gigantic troubles into which so many others fell, in regard to the cost of their work. In Soane's hands the work, despite all his alterations, and the fluid character of his changing design would come out at, or within, the actual estimate he had already given. He was exceedingly sensitive on the point of professional honour. When the first club, or early Institute of Architects, was being established, a sub-committee of Soane and Holland was appointed (1792) to draw up the definition of an architect, and the wording is the same as that which Soane had already given, in the preface to his book of designs published in 1788. He says : " The business of the architect is to make the designs and estimates, to direct the works, and to measure and value the different parts, he is the intermediary agent between the employer, whose honour and interests he is to study, and the mechanic whose rights he is to defend. His situation implies great trust ; he is responsible for the mistakes, negligencies, and ignorancies of those he employs, and, above all, he is to take care that the workmen's bills do not exceed his own estimate. If these are the duties of an architect, with what propriety can his situation and that of the builder or contractor be united ? "

Soane never varied from this high standard, which he repeats in his last writings. It seems to be the basis on which the modern profession of architecture has since rested.

It is worthy of note that Napoleon soon after in his Code established the responsibility of the architect in France. I imagine therefore that Delorme's delightful audacity is still in use across the Channel : " The architect should be careful in the choice of his client."

Soane therefore, undeterred by the difficulties of the times, pursued his work with such success that in five years he was paying his expenses. In 1784 he took a partner, who became the mainspring of his life for the next thirty years. Eliza Smith, who unfortunately did not live to become Lady Soane, was niece of George Wyatt, a builder of Albion Place, just across Blackfriars Bridge. The Wyatts were an immense family, and I do not know exactly what the relationship to James Wyatt was, but Soane and Wyatt were always great friends, and, on the sudden death of the latter, the widow depended upon Soane for help and assistance, being left wholly unprovided for.

Some money was inherited from George Wyatt in the form of house property, and the houses in Albion Place came ultimately to Soane. Four years later than his marriage began the real public career of the young architect, because, with the support of William Pitt, then Prime Minister, he was chosen out of fifteen competitors as architect to the Bank of England, in succession to Sir Robert Taylor.

It is impossible to deal with that subject here. I must just premise that the original Bank as built by Sampson had been extended by Taylor in the form of two low wings. The work consisted of single storey halls, very much like the interior of St. Martins in the Fields, and of similar lath and plaster construction.

Soane made a general survey plan of the existing building, and found that the wet penetrating under the lead roofing had rotted the main beams. He proposed the rebuilding of the eastern portion in fireproof construction, using stone, brick, and fireclay pots for piers, arches, vaults and domes. The first part was finished coincident with the death of Sir William Chambers, 1796. The destruction of Taylor's work was resented, but the crowning offence was the character of the new work. The favourite student of the Academy had kicked over the traces. Had not Sir William Chambers, in his last edition of the *Civil Architecture* (1791), triumphed over the early collapse of James Stuart's Greek attempts, and here is young Soane giving us flutes without fillets, flat antae in place of decent pilasters, together with indescribable incised lines and surfaces, the whole crowned by acroters unknown to Palladian tradition. The building, in fact, though not truly Greek, was a real pioneer of the Greek revival, which was not to become completely effective until after the great war (1793–1815) was over. The Bank is therefore a transition building of the greatest importance in the long chain of English architecture. The new interiors were even more objectionable to the older school. Taylor's Rotunda, decently dressed in the Orders, had been replaced by a naked piece of Roman-like building, with little more than fluted lines as surfaces of interest, and all the customary trimmings had been rudely scrapped. The New Bank made as much row, in fact, as a futurist might do, if he could, to-day.

Some wag rose to the occasion and produced a ballad in rhyme, headed " The Modern Goth." I cannot give it here, but it spoke *inter alia* of the building as " ribbed like loins of pork."

Soane was now up to the eyes in work, because in 1792 he had started a house for himself, No. 12, Lincoln's Inn Fields, which he occupied in 1794. In the latter year he was also ordered by a Committee of the House of Lords to prepare plans for a new House of Lords. thus entering upon a task which had been the goal of all leading architects of the eighteenth century. Here, again, I cannot enter upon a complicated and interest-

ing subject. It is only necessary to say in passing that the growing development of the war, which had begun in 1793, shelved Soane's design, and that when the matter became urgent in 1800, James Wyatt, who had succeeded Sir William Chambers as Surveyor-General, claimed the work by reason of his official position. This was a real hardship, and one of the great disappointments of Soane's life. At the moment, however, all seemed most promising. He had been elected A.R.A. in 1795, and, engaged on his great scheme, heard nothing of this libellous skit, and it might have remained unknown to him but for an accident which caused the explosion. The character of James Wyatt is not very easy to understand; probably the fact that he was taken to Italy at fourteen and had spent six years abroad, and had become suddenly famous at twenty-two, had something to do with a curiously detached attitude of mind. About this time he had completed the London Tavern, where he gave a dinner to members of the Architects' Club and his friends. Soane was not present, and Wyatt actually allowed copies of this skit to be placed on the table for each guest, and read it aloud himself for their amusement. Even so, this might have passed, but just then an important work was pending in Leadenhall Street. The East India Company had a long frontage, and, feeling that their surveyor, Jupp, was not adequate alone for a work of this importance, so near the Royal Exchange, the Bank, etc., required that designs should be invited from six leading architects. In addition to Wyatt, Holland, and others, Soane was included in the list of the chosen. Jupp thereupon took upon himself to urge the omission of Soane's name, and succeeded in his invidious request. It was inevitable, however, that this should become known, and Soane was naturally furious at what he considered was a monstrous slight. It will be understood that the Architects Club had been started as a very select body to which only medallists, or members of academies, like those of Rome and Parma, could belong. Jupp, however, had somehow been included, and pressure within the club was now brought to bear upon him to effect a reconciliation with Soane.

As is not infrequently the case, the trouble was thereby only inflamed. At this point the previous skit, and another, which purported to be an epitaph of Sir William Chambers, but was really a denunciation of Soane, were communicated to the victim, who also discovered that they were actually being advertised for sale in the newspapers. That settled the matter, and he decided to treat the publications as a libel. Two well-known counsel, whom he consulted, unwisely reported that the writings were actionable. Thus was opened up a series of unfortunate retaliatory attacks and counter attacks, which to a considerable extent clouded Soane's life, and consumed much of his precious time and energy. It further inspired him to write a notable pamphlet, which Isaac D'Israeli considered as one of the most spirited of the time. That age was disfigured by disgraceful literary and personal attacks. No respectable paper to-day would admit the sort of thing that was then claimed to be "fair, accurate, and candid criticism." George Wightwick, writing after Soane's death, truly remarks that "no one was less indebted to public support," and there never was a case proving better that "ridicule fails to kill." It is a remarkable thing that Soane, amid all these and other repeated attacks, pursued his own path and ended ultimately as the venerable head of the profession, to whom all in 1835 joined in doing honour.

In 1802 Soane became a full member of the Academy, and in 1806, on the retirement of his master Dance, who had never even attempted to lecture, the pupil was elected Professor of Architecture.

The Academy had sadly fallen off under Benjamin West, the feeble successor to Reynolds. In this very year James Wyatt was President, West having been forced to resign. So disgusted, however, was the first architect president that he retired, and West was reinstated. Farrington, an indifferent artist, had succeeded to Chambers as dictator, and belonging to his party was old Robert Smirke, the painter, known now only as the father of that dull architect, Sir Robert, author of the British Museum, the Mint, and similar works.

A feud existed between old Smirke and Soane, apparently arising from the fact that Soane had turned young Robert out of his office as too hopeless a pupil. Elected Professor, Soane took up his new duties with characteristic energy and thoroughness. For three years he worked at his lectures, which he began as a course of six in 1810. In the fourth lecture, however, he commented upon the new Covent Garden Theatre, by young Smirke, opened in 1809. All that Soane said was a truism, but it served to ignite a latent powder-magazine. A hasty resolution of the Academy, conveyed to Soane with a complete lack of form and courtesy, was accepted as a challenge, and the Professor replied by promptly suspending his lectures. The struggle lasted for the next two years. Soane showed policy and discrimination, the extremists were overborne, and in 1812 the series of lectures was resumed, and continued to be given up to Soane's death. In 1809 he began the present Museum, by the building of the domed portion on the rear part of the next door house, No. 13. Soane had been struck by the absence of casts, drawings and models at the Academy for the use of students, and his love of collecting was greatly stimulated by this definite objective. In 1812 he rebuilt the front part of No. 13, and then moved into the new house, which was completed by 1814.

At this same period he was building Dulwich Gallery, with a mausoleum attached to the memory of

his steadfast friend, Sir Francis Bourgeois, R.A. All this time his two sons, John and George, had been growing up and had left Cambridge. Soane had entertained great visions for John; as early as 1800 he had started a country retreat, Pitzhanger, at Ealing, building a house of an architectural character, which his son might occupy as a young architect. Neither of the boys, however, had any talent or real inclination for architecture, and worse still, they had no definite ideas at all. They had vague literary aspirations, and that was all. Soane was bitterly disappointed; he envied the Wyatt, Cockerell and Hardwick families. Of all his own numerous pupils, the most gifted was Basevi, and it was tragic that he was not Soane's own son. Soane was a good master, and helped his pupils on leaving to travel, and in other ways. Their letters from abroad serve to illustrate his own character. Those of Basevi breathe a spirit totally lacking in the simultaneous letters of young Soane, and the contrast must have been bitter to the unfortunate father. The case of the second son became much more serious, and his conduct precipitated a crisis. Mrs. Soane died almost suddenly in November, 1815, only a year after the move to the new house; and after this shock life assumed a different aspect for Soane. Probably only his intense interest in architecture preserved his intellect and maintained his hold on life; but an element of sadness and loneliness now clouded too often the mind of the former bright, handsome and enthusiastic student. The house, so characteristic of himself, became a "purgatory," and he mostly resorted to the little official residence, which he had built in the grounds of Chelsea Hospital, where he held the post of resident architect.

Pitzhanger had been sold (Xmas, 1810) before his wife's death, on the definite failure of their hopes for the son; and Soane to the end regretted "the Gothic feasts and intellectual banquets" at which he had entertained the Academy Circle and so many of the leading men of the day. To a man of his active habits it was nothing to walk to Ealing and back; and the house, about six miles from Hyde Park Corner, served as the weekend resort of those days. The little house at Chelsea, so intimately associated with the last twenty years of Soane's life, has, unfortunately, been destroyed, but Pitzhanger, altered it is true, remains as a Public Library.

From this time his eyesight became a trouble, and in 1824 he had an operation for cataract. The fact that he was 71, however, did not diminish his interest in architecture. Since the death of James Wyatt (1813) the office of Surveyor-General had been reorganised under a political head, with three official architects—Nash, Soane and Smirke—to act as technical advisers and administrators. Nash depended on the favour of George IV, and the position was a very difficult one for Soane. Parliament passed an Act (1818) to expend a million on building churches after the peace—the housing scheme of those days. Soane's advice, fixing the cost at £30,000 each, was rejected; and two classes, of £20,000 and £10,000 each, were established. He himself built two or three churches; but it is evident that he was half-hearted in the matter. The young man who most distinguished himself was the future Sir Charles Barry, R.A., who, returning from his grand tour in 1820, established himself in Ely Place, where Soane called upon him. I do not think that Soane's kindness to the young man has been at all realised. He afforded him early opportunities in connection with these churches; and my belief is that the companion with whom he started abroad, and the lady whom he married, both belonged to the Soane circle.

The year 1824 was a disastrous one for Soane, as a violent attack was made, by the rising school of Mediævalists and Antiquarians, on the new Law Courts which he was building adjoining Westminster Hall. No architect to-day would, I think, regard Soane as having been wrong in his main position, which was that his Palladian façade, carrying on the main lines of William Kent's existing building, was better as a contrast to the Gothic north end of the Hall than an imitated new Gothic addition could have been. Unfortunately Soane wavered, and put himself in the wrong by offering to Gothicise his classic design, which was already nearly completed. A committee of the House of Commons was appointed, a long wrangle ensued, accompanied by unlimited abuse of the architect, and a ridiculous decision was finally arrived at. The plan was spoilt by pulling down and setting back the front block, and an amateur Gothic design, of which Soane washed his hands, was substituted for his own Palladian façade.

Probably failing health accounted for another unfortunate affair over the new Board of Trade and Privy Council offices in Whitehall. Someone blundered over the setting out, and the building could never be completed. In 1844 Barry, after Soane's death, successfully recast and completed the building as the present Treasury, and practically nothing remains of Soane's design.

Soane's masterpiece, the Bank, was now about completed, the Threadneedle façade being the last part to be undertaken. Thirty-five years had elapsed since his appointment, and yet the great work has a unity which gives no idea of the series of additions and transformations by which it assumed its final form. There is in existence a letter from Allan Cunningham, the author of the *Lives of British Architects, Painters and Sculptors*, in which he refers to Soane "as the most original British architect since Vanbrugh." His work has, in fact, character, it arouses opposition, not so great, of course, as was the case at the time, but sufficient to prove its

possession of that quality. In addition, the work is always refined and never vulgar. The student should, therefore, examine it with respect and attention, and decide for himself what it may be that he himself finds to be lacking, from the point of view of the highest standard of the old masters. The last work of Soane was the State Paper Office, of 1829-1833, in St. James's Park, now no longer existing. It shows the definite influence of the new star then rising, as it belongs to the Astylar Italian, which Barry was then introducing at the Villa Attree, Brighton, and the Travellers' Club, in Pall Mall. The career of Soane thus runs through from Adam and Chambers to Barry. Born under George II, he lived through the long reign of 60 years of George III, through George IV and William IV, the last of whom knighted him in 1831, and his death took place only five months before the accession of Queen Victoria.

Wren spent 35 years in building St. Paul's, but Soane was 45 years architect to the Bank of England, retiring in 1833.

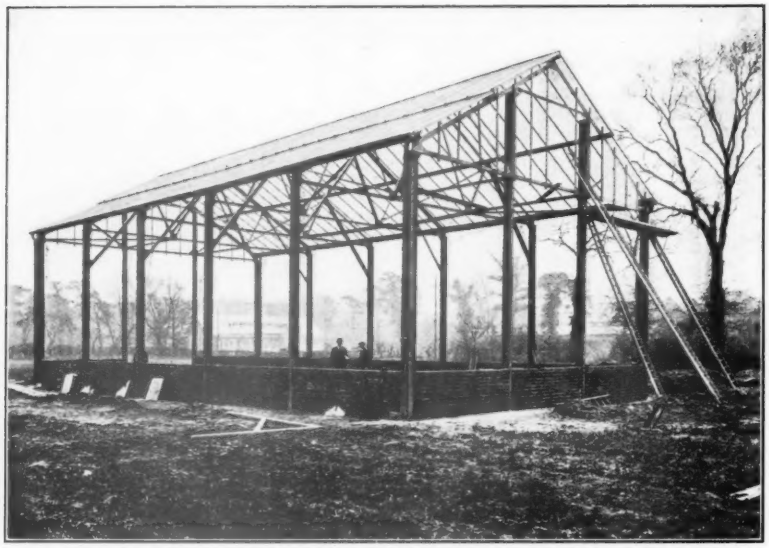
After his retirement Soane gave increased attention to authorship. His first book came out, while a student, in 1777, and after a variety of trials, for writing was not easy to him, he brought out his chief work, the quarto *Description of the House* (1835–36). His pupil, C. J. Richardson, was the illustrator, and George Bailey, who had been quite 30 years in the office, was probably the amanuensis. These two old pupils remained with him to his death, and Bailey became the first Curator of the Museum (1837–60). In all something like 50 pupils and assistants had been in the office, and several now held good positions in the profession. Nash had gone down in a cloud of official and Parliamentary censure, and it was felt that Soane's great services and high standard of professional conduct deserved recognition. Remembrance of former strife was put aside, and it was resolved to present a Gold Medal to Sir John Soane as head of the profession. This event, which Soane recognised as "a ray of sunshine gilding the close of his life," took place on 24 March 1835 at his house, when Sir Jeffrey Wyattville, R.A. (architect of Windsor Castle), presented the medal, and Barry, Donaldson, and others of the Committee, together with 300 subscribers, were present. To acknowledge and record this happy reunion Soane gave £5,000 as a fund for distressed architects' widows and children, the income to be annually distributed on the same day and in the same place.

This represented in part the continuance of the private assistance he had given himself for very many years. The extent of his charity was unknown, but it was realised that it was very considerable.

Sir John Soane died, at the age of 84, on 20 January 1837, in his house in Lincoln's Inn Fields, and was buried in old St. Pancras Churchyard in a remarkable tomb, designed by himself for his wife in 1816. His eldest son, John, who died in 1823, is also buried there.

The gift of Sir John Soane's house, with all its wonderful contents, with the object of "Promoting the study of Architecture and the Allied Arts," arrested even the attention of the public. So strangely, however, are we constituted that for ten who have any idea of Sir John Soane's life and aims, ninety will be found to have heard that he was an eccentric, who disinherited his sons and sealed up his papers in a cupboard, apparently for the needless confusion of his executors and trustees.

BANK OF ENGLAND. SECTION OF THE CONSOLS DIVIDEND OFFICE, ROTUNDA, AND FOUR PER CENT. OFFICE (as designed), 1805.



SHOWING NEW BUILDING FOR ILLUMINATION EXPERIMENTS AT NATIONAL PHYSICAL LABORATORY, IN COURSE OF ERECTION

The Lighting of Public Buildings: Scientific Methods and Architectural Requirements

AN ACCOUNT OF EXPERIMENTAL WORK AND RESULTS BY E. H. RAYNER, Sc.D., J. W. T. WALSH, M.A., M.Sc., AND H. BUCKLEY, B.Sc., OF THE NATIONAL PHYSICAL LABORATORY

(Summary of a Paper read at the Joint Discussion arranged by the Illuminating Engineering Society with the Royal Institute of British Architects on Tuesday, 28 March 1922)*

(I.) EXPERIMENTS ON LIGHTING INSTALLATIONS FOR LARGE CLERICAL OFFICES.

INTRODUCTION.

THE experiments described in this Paper arose out of a request of H.M. Office of Works for information which would assist them in drawing up a specification for lighting installations at the new building of the Ministry of Pensions at Acton. An initial average illumination over the whole room of about four foot-candles was aimed at.

EXPERIMENTAL ARRANGEMENTS.

For the purposes of the experiments one-half of one of the large rooms at Acton, the dimensions of which are 170 feet by 37 feet 6 inches by 12 feet 6 inches, was prepared and wired by H.M. Office of Works for the installation of various lighting systems. Several manufacturers kindly placed selections of their fittings at the disposal of H.M.O.W. and the N.P.L., while H.M.O.W. carried out decoration schemes suggested by the N.P.L.

Some idea of the room used in this work can be obtained from Fig. 1, which shows it in plan and elevation. The structural details call for a certain amount of consideration, as they imposed important restrictions on the arrangement and choice of fittings. The dimensions were 80 feet by 37 feet 6 inches by 12 feet 6 inches, and the ceiling was crossed by a series of girders 15 inches deep, which divided the room into eight bays each 10 feet wide. In addition, each girder was sup-

* The Paper was divided into three parts dealing respectively with (*a*) Experiments on the artificial illumination of large offices by semi-indirect lighting; (*b*) Experiments on the natural lighting of picture galleries; and (*c*) A description of a building specially erected at the National Physical Laboratory for illumination experiments.

ported by a vertical stanchion 9 inches wide, at a distance of 15 feet 6 inches from one of the long walls. If due regard to symmetry were observed, the division of the ceiling in the manner indicated limited very much the freedom of arrangement of the various fittings, while the depth of the girders below the ceiling prevented the use of fittings actually on the ceiling, or even the placing of them at such heights as might have been desirable, if a clear expanse of ceiling had been available.

The windows (8 feet 6 inches by 5 feet), reaching to within about 15 inches of the ceiling, were at 10 feet centres in the middle of each bay. For the test they were covered with black boards representing the conditions existing when either no blinds at all or black blinds are used. White cloths were also provided to imitate the behaviour of light-coloured blinds. Experiments were made with and without these cloths, so as to evaluate the effect of blinds on the illumination.

The working plane was taken at a height of 2 feet 6 inches from the floor. In certain rooms at Acton the height is only 11 feet 6 inches. Information likely to be of value in selecting installations for these rooms was obtained by taking measurements at a height of 3 feet 6 inches. The justification for this lies in the fact that the portions of the walls and floor below the working plane exert little effect on its illumination. In the most favourable case possible with white walls and very light floor, this effect is believed to be less than 5 per cent., while in the cases under consideration the floor was fairly dark, having a reflection ratio of about 35 per cent.

Experimental Procedure.

Illumination measurements with either a lumeter or luxometer were made along selected lines in the room, and the average illumination over the whole room was taken as the mean of all the observations (100 or more), the total watts used in each installation being also noted. In addition, observations of surface brightness of the visible light sources and the reflection ratios of the decorations were made.

The fittings are shown diagrammatically in Fig. 2, while typical polar curves are shown in Figs. 3 to 6. The arrangement of lighting points in two typical installations is shown in Figs. 7 and 8.

Four schemes of decoration were used as follows :—

Decoration I.

Ceiling, distempered white ; reflection ratio, 80 per cent.

Walls, distempered white ; reflection ratio, 70 per cent.

Blinds, dirty white ; reflection ratio, 55 per cent.

Decoration II.

Ceiling, white ; reflection ratio, 80 per cent.

Walls, buff ; reflection ratio, 60 per cent.

Blinds, as before.

Decoration III.

Ceiling, white ; reflection ratio, 80 per cent.

Top frieze 2 feet 6 inches deep, white ; reflection ratio, 80 per cent.

Walls, bluish grey ; reflection ratio, 25 per cent.

Blinds, as before.

Decoration IV.

Ceiling, white ; reflection ratio, 80 per cent.

Top frieze 1 feet deep, white ; reflection ratio, 80 per cent.

Walls (upper portion), buff ; reflection ratio, 42 per cent.

Dado, bluish grey ; reflection ratio, 25 per cent.

Blinds, as before.

The difference in illumination produced by the absence or presence of blinds is shown in the results of Installations I. and Ia., and again in Installations V. and Va.

The effect of a change of decoration on the same illumination system is exhibited by the following installations :—

From Decoration I. to II. by Installations VII. and VIII.

From Decoration II. to III. by Installations IX. and X., and also by VIII. and XI.

From Decoration III. to IV. by Installations XIII. and XIV., and also by XIIIa. and XIVa.

The effect of different heights of room (obtained by altering the height of the working plane) is shown in Installations XIII. and XIIIa., and also in XIV. and XIVa.

An indirect lighting system was employed in connection with Decorations I. and II., and the results are given under Installations XV. and XVI.

Summary of Results.

The results obtained with the various installations are given in the form of curves of illumination along the lines of measurement (see Fig. 9). These are all reproduced in the original paper. The following table gives a general summary of the results :—

Efficiency of Lamps 230V. Gas-filled.

Watts.	Watts per Candle (aver.)	Lumens per Watt.
100	1·26	10·0
150	1 18	10·6
200	0·96	13 1

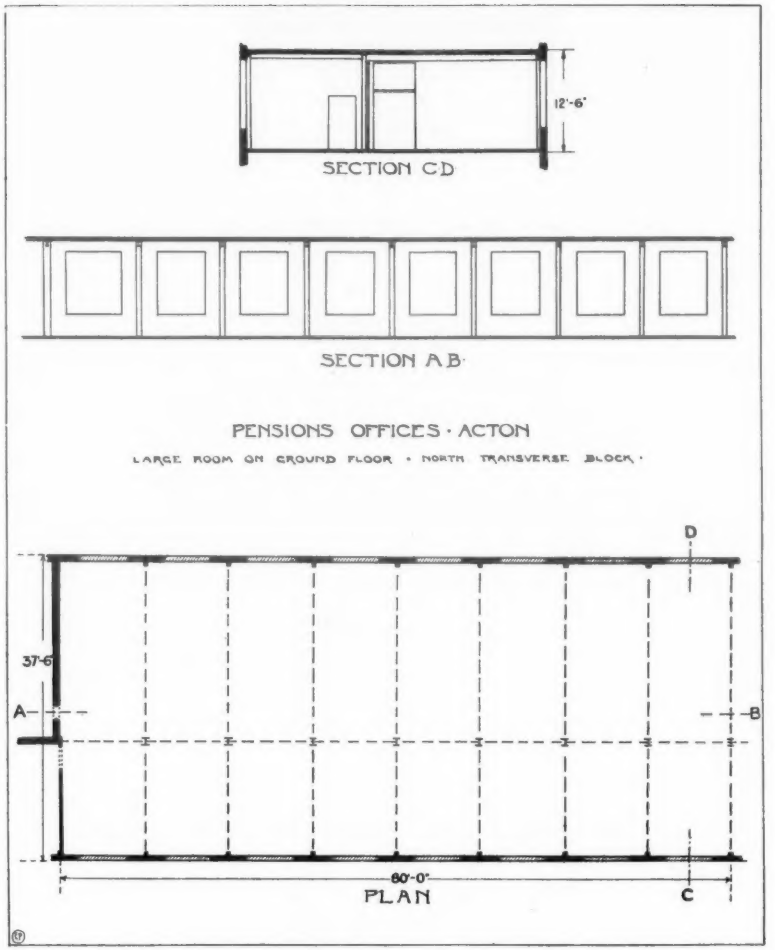


Fig. 1.—Showing dimensions of one of the large rooms in the new building of the Ministry of Pensions at Acton, where the experiments were conducted

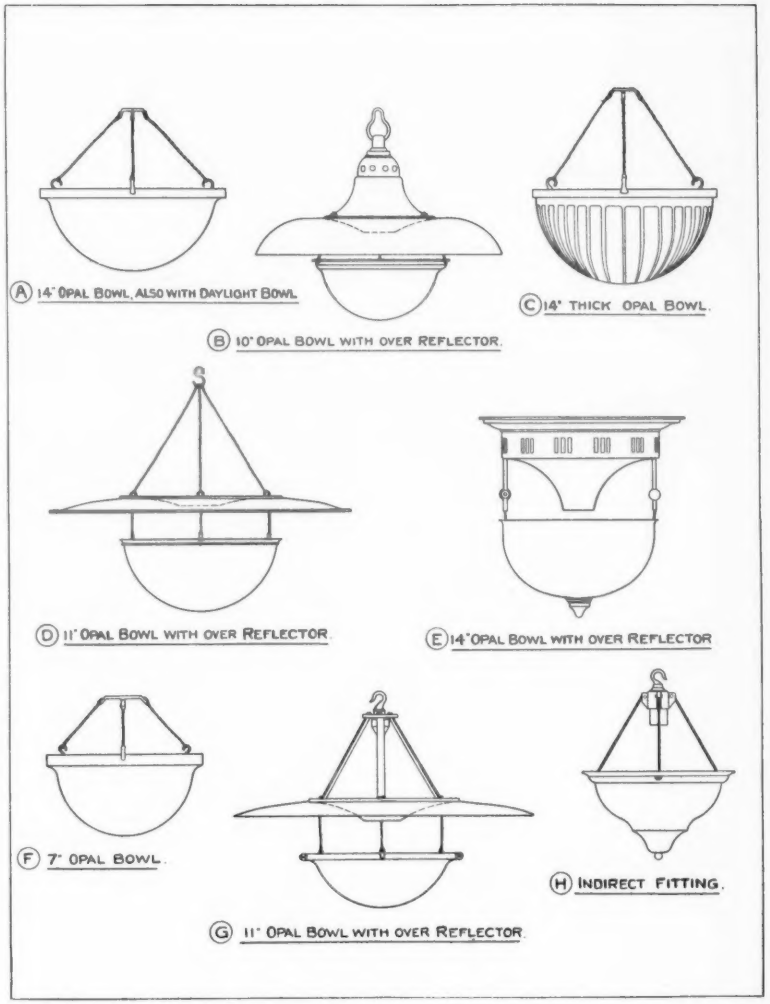

(A) 14" OPAL BOWL, ALSO WITH DAYLIGHT BOWL.
(B) 10" OPAL BOWL WITH OVER REFLECTOR.
(C) 14" THICK OPAL BOWL.
(D) 11" OPAL BOWL WITH OVER REFLECTOR.
(E) 14" OPAL BOWL WITH OVER REFLECTOR
(F) 7" OPAL BOWL.
(G) 11" OPAL BOWL WITH OVER REFLECTOR.
(H) INDIRECT FITTING.

Fig. 2.—Diagrams of fittings used in experiments on lighting in the new building of H.M. Office of Works at Acton

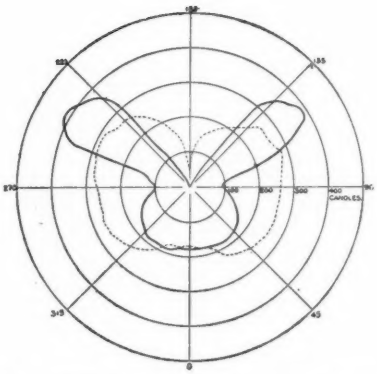


Fig. 3.—Polar curve of 230 v. 200 w. gas-filled lamp in conjunction with Semi-indirect 14 in. Opal Bowl and Over Reflector shown in Fig. 2E (lamp filament 2½ in. below plane of top of bowl)

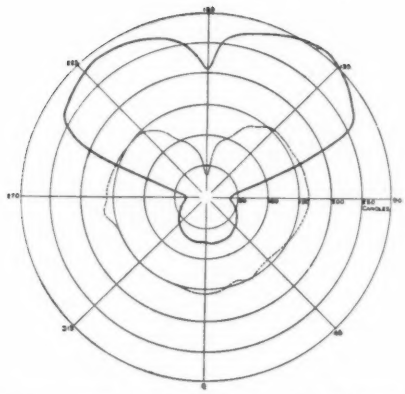


Fig. 4.—Polar curve of 230 v. 150 w. gas-filled lamp in conjunction with Semi-indirect 7 in. Opal Bowl shown in Fig. 2F (lamp filament 1 in. below plane of rim of bowl)

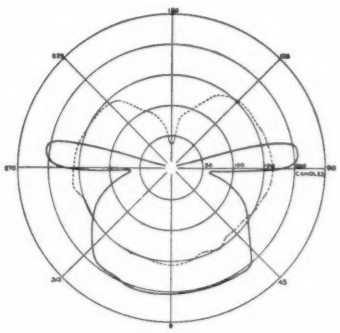


Fig. 5.—Polar curve of 230 v. 150 w. gas-filled lamp in conjunction with Semi-indirect 11 in. Opal Bowl and 23 in. Over Reflector shown in Fig. 2G (lamp filament in plane of rim of bowl)

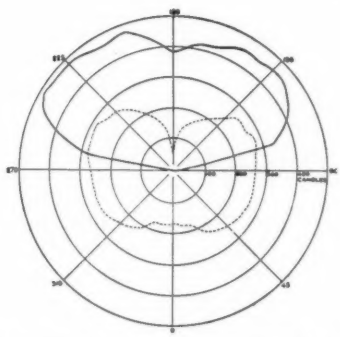


Fig. 6.—Polar curve of 230 v. 200 w. gas-filled lamp in conjunction with Indirect Silvered Reflector shown in Fig. 2H (lamp filament 1 in. below plane of rim of bowl)

TYPICAL POLAR CURVES SHOWING LIGHT DISTRIBUTION FROM FITTINGS

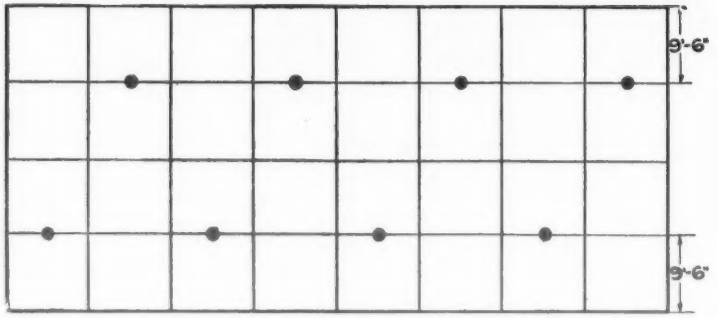


Fig. 7

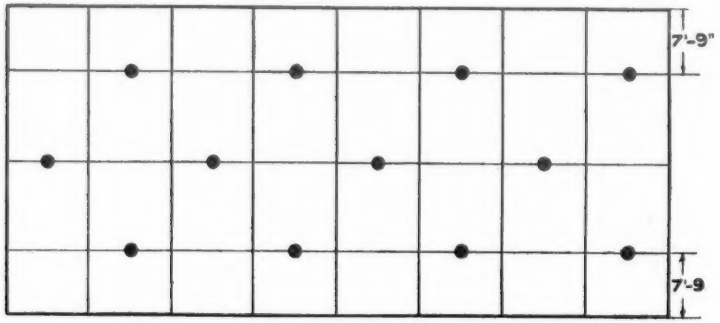


Fig. 8

Arrangement of Lighting Points in Two Typical Installations

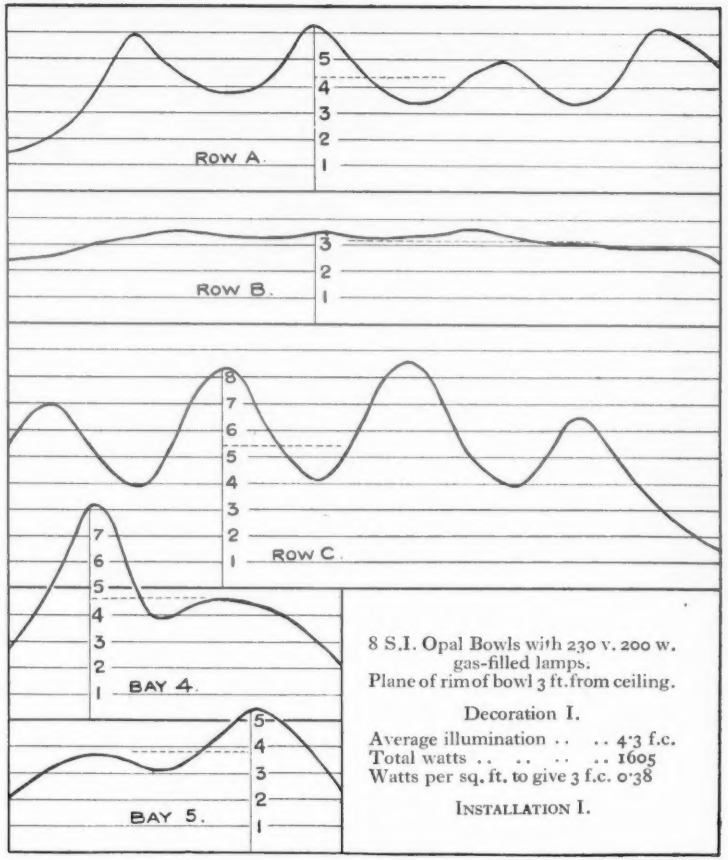

ROW A.
ROW B.
ROW C.
BAY 4.
BAY 5.
8 S.I. Opal Bowls with 230 v. 200 w. gas-filled lamps.
Plane of rim of bowl 3 ft. from ceiling.
Decoration I.
Average illumination .. .. 4·3 f.c.
Total watts 1605
Watts per sq. ft. to give 3 f.c. 0·38
INSTALLATION I.

Fig. 9

Typical Curves Showing Distribution of Illumination

Installation.	Lamps.	Fitting (see Fig. 2)	Aver. Illum. f.c.	Watts.	Watts per sq. ft. per 3 f.c.	Utilisation Co-efficient. Per cent.	Decorn.	Surface Brightness. Candles per sq. in.	Remarks.
I.	8·200W.	A	4·3	1,605	·38	61	I.	1·0—2·0	Objectionable shadows on ceiling; high diversity factor.
Ia.	8·200W.	A	4·0	1,605	·40	57	Ia.	1·0—2·0	Blinds removed; otherwise as I.
II.	12·150W.	A	4·1	1,900	·46	62	I.	0·7—1·3	—
III.	12·150W.	A	3·8	1,945	·51	55	I.	0·5—1·2	Bluish glass in bowls.
IV.	20·100W.	B	3·6	2,070	·57	53	I.	1·0—1·2	Very uniform illumination.
V.	12·150W.	C	4·3	1,920	·45	63	I.	0·8—1·3	—
Va.	12·150W.	C	4·0	1,920	·48	59	Ia.	0·8—1·3	Blinds removed; otherwise as V.
VI.	12·150W.	D	3·9	1,925	·49	58	I.	1·6—2·1	—
VII.	8·200W.	E	3·4	1,675	·49	47	I.	1·5—2·5	Bowls uneven in density.
VIII.	8·200W.	E	3·5	1,650	·47	49	II.	1·5—2·5	Change of decoration; otherwise as VII.
IX.	12·150W.	F	3·9	1,900	·49	56	II.	2·5	—
X.	12·150W.	F	3·5	1,900	·54	52	III.	2·5	—
XI.	8·200W.	E	3·1	1,670	·54	43	III.	1·5—2·5	—
XII.	12·150W.	G	3·1	1,910	·62	46	III.	0·6—1·2	—
XIII.	12·150W.	G	3·0	1,900	·63	45	III.	0·6—1·2	Fittings probably give too extensive distribution.
XIIIa.	12·150W.	G	3·0	1,900	·63	45	III.	0·6—1·2	Working plane raised 1 ft.
XIV.	12·150W.	G	2·9	1,900	·65	43	IV.	0·6—1·2	—
XIVa.	12·150W.	G	3·0	1,900	·63	45	IV.	0·6—1·2	Working plane raised 1 ft.
XV.	6·200W.	H	4·7	1,250	·53	43	I.	—	Indirect lighting.
XVI.	6·200W.	H	4·7	1,250	·53	43	II.	—	Indirect lighting.

Conclusions.

It is difficult to draw conclusions from a series of lighting installations unless it is known definitely what are the precise conditions under which the conclusions have to be applied. A number of installations have been put up in the experimental room and measurements of illumination have been correlated with the power consumption. In addition to the cost of power such considerations as the uniformity of the illumination, cost of maintenance of the decoration, cost of initial installation, etc., have to be taken into account.

With the kind of ceiling available at Acton, it was difficult to say immediately whether it would be better to utilise fittings in which an artificial ceiling, *i.e.*, an over reflector, was provided, or to make the best possible use of the existing ceiling. On comparing the fittings which use over-reflectors and those which do not, the tests indicate that the former are usually at a slight disadvantage. In this connection the values of the watts per square foot for 3 foot-candles illumination should be compared with the utilisation co-efficients of the various fittings.

The relatively high watts per square foot for 3 foot-candles illumination in the case of Installation IV. is probably due to the low efficiency of 230V. 150W. lamps. The fittings used in Installation VI. gave results comparing very well with other fittings using the same decoration. The surface brightness of its opal bowls was considerably higher than most of the others, so that this result is probably due in part to a higher transmission of the bowls.

The fittings used in Installations XII. to XIIIa. were used with darker decorations, but by applying the deduced reduction in average illumination in passing from Decoration II. to Decoration III. they still appear to require more watts per square foot for 3 foot-candles than the other fittings using over-reflectors. The opal bowls used in these fittings were rather dense, and were of lower intrinsic brightness than any others used.

The tests indicate that the effect of light-coloured blinds as compared with dark-coloured blinds—or what is practically the same thing, no blinds at all—is not unimportant when light-coloured decorations are used. The difference between the average illuminations was of the order of 7 per cent. With darker decorations, where considerations of upkeep have resulted in the decision not to pay too much attention to the reflection ratio of the walls, this effect is not so large.

As regards the rooms having a ceiling height of 11 feet 6 inches, the tests show that with the same decoration the difference is mainly one of uniformity, as would be expected. This difference can be partly eliminated by raising the fittings in the lower rooms, though the appearance of the ceiling may not be improved by such a change.

As a result of considering installation costs, and the cost of current, renewals and decorations over a period of five years, H.M. Office of Works were led to the adoption of the installation scheme described as Installation II. in conjunction with the following decoration scheme :—

Ceiling, white ; 80 per cent. reflection ratio.
Walls, light buff ; 60 per cent. reflection ratio.
Frieze, white, 12 inches deep ; 80 per cent. reflection ratio.

The rooms illuminated by this system were 170 feet long by 37 feet 6 inches wide ; this resulted in the use of 26 14-inch opal bowls using 150 watt lamps spaced alternately two and one in each bay. The average initial illumination was 4·15 foot-candles, while the maximum and minimum were 5·5 foot-candles and 2·9 foot candles respectively.

The results are exhibited in the form of curves in Fig. 9, which shows the illumination observed along three lines following the length of the room, two at the sides (A and C) and one in the middle (B). The lower curves are for cross lines in two of the bays.

(II.) A METHOD OF PICTURE GALLERY ILLUMINATION.

As a result of studying the subject of the illumination of picture galleries one can hardly fail to arrive at the conclusion that the important factors, which ought to

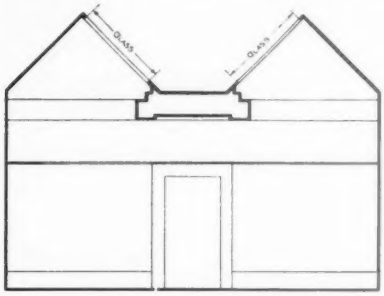


FIG 1 CROSS SECTION THROUGH MODEL WITHOUT SCREEN.

receive the most earnest consideration from those responsible for their construction, have been very largely neglected. The consequence is, that many of the most noted galleries, erected at great cost and housing pictures of inestimable value, are most woefully deficient in the essential features of design which make for good lighting ; and, except under special circumstances, picture lovers can seldom hope to see many of the world's masterpieces as they ought to be seen.

The reason of this is that very often little or no consideration has been given to the effect of reflection of light from the surface of the glass covering the pictures. The glass is necessary for their preservation from dust and dirt, but, unfortunately, for the spectator, in many pictures the light reflected from the glass may be equal to or greater than that reflected from the darker parts of the picture. Clear glass reflects some

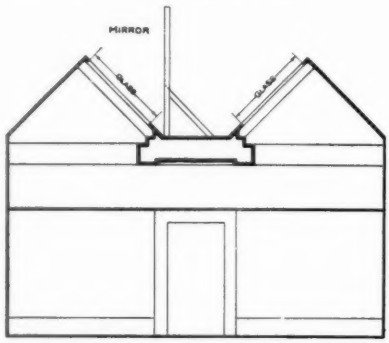


FIG 2 CROSS SECTION THROUGH EAST-WEST MODEL WITH SCREEN.

10 per cent. of the incident light ; and, though it may be possible to reduce this by a small amount, methods so far suggested would probably have disadvantages considerably out-weighing any benefits attainable. It is often impossible to study pictures properly, short of either removing the glass or of hanging a dark curtain behind the observer, as is commonly done when photographing them.

The importance of the 10 per cent. mentioned above will be realised from the fact that, while the reflection ratio of pictures of a light tone has been found to be as high as 50 per cent., that of Rembrandt's *Portrait of Himself*, for instance, is only 3·7 per cent., and of his *Portrait of a Jewish Merchant* only 1·5 per cent. It follows that the brightness of the image of a visitor's dress of a light colour (having a reflection ratio of, say, 80 per cent.) formed by reflection in the glazing which has a reflection ratio of 10 per cent., will be 8 per cent. Thus the reflected image of the dress may not infrequently be brighter than the painted surface. It follows that in a very large number of cases the light reaching the eye

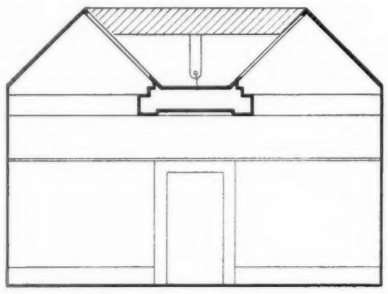


FIG 3 CROSS SECTION THROUGH NORTH-SOUTH MODEL WITH SCREENS.

by reflection in the glass from light-coloured objects will be of the same order of magnitude as that from the picture itself. In addition, it should be noted that the images seen in the glazing are not in the plane of the picture, so that there is constant effort necessary on the part of the eye to keep the latter in focus.

Realising the unsatisfactory condition of affairs, Sir Frank Baines of the Office of Works, after giving very careful consideration to the subjects involved, referred to the National Physical Laboratory a design of a roof which should diminish to a very considerable extent the trouble due to reflections from the glazing. The main idea is to reduce as far as practicable the general lighting on the floor of the gallery, so that spectators will be illuminated as little as possible ; and yet to provide adequate illumination on the walls.

The design is shown in Fig. 1, from which it is obvious that the result will be very different from that in many of the rooms at the National Gallery, which, while being quite suitable for pictures without protecting glass, allows so much light to fall on the floor and objects in the room as to cause inconvenience of the kind described.

It is, of course, impossible to prevent reflection from pictures on the opposite wall ; and, short of using a dark curtain along the length of a gallery, the best way to minimise the effect is to keep the picture frames and the wall decorations, especially those above the picture line, low in tone, preferably somewhat lower than the average tone of the pictures. The experiments which have been made on these two points indicate the great value of the help resulting from the application of this principle of " monotony " in reducing the obtrusiveness of the inevitable reflections occurring in galleries hung with pictures on both sides. A design of the type illustrated in Fig. 1 obviously reduces very considerably the total amount of light entering the room, as compared with galleries of which the roof is nearly all glass. It was one of the chief aims of the investigation undertaken by the National Physical Laboratory to determine whether, with this reduction, sufficient illumination would be obtained on the pictures under the daylight conditions common in London.

The question of orientation was of first importance, and it was considered that the most likely use to which such a design might be put would be to a gallery running east and west.

Gallery With Length East and West.

In a gallery with length east and west it is necessary to keep the sun off the north wall. The N.P.L. advised that the best way to prove any design qualitatively and quantitatively was to make preliminary experiments on a scale model, since illumination values would be independent of scale. They also suggested that direct sunlight should be kept off the north wall by a vertical screen of sufficient height, which should be highly reflecting on the north side, and so make use of light from the north part of the sky for illuminating the pictures on the north wall, light from the same quarter naturally being incident on the south wall. (Fig. 2.) In this way, by adjusting the height and position of the screen, the illumination on the north and south walls might be made sufficiently equal, so that no material difference between them would be noticed whether the sum were shining or not.

A model was therefore built in the yard of the National Gallery to a one-third scale of a room 80 feet by 40 feet. Experiments were made in various kinds of weather on the height and position of the screen and on the decoration of the walls. The quantity measured was the daylight factor, which, for the purpose of these experiments, was defined as the ratio of the illumination on a small *vertical* part of the wall to the illumination on a *horizontal* area out of doors, shaded from direct sunlight. Similar illumination measurements were also made in a number of the rooms of the National Gallery.

The general results were that a design on the lines proposed with a screen of a height suitable for preventing sunlight reaching the north wall, it was possible to equalise the illumination on the north and south walls, to have the walls decorated in a suitable low tone, and yet provide adequate illumination on the pictures. The general illumination on the floor of the room was reduced to about a quarter of that in some of the existing galleries.

Gallery With Length North and South.

The application of the general design is somewhat simpler in the case of a gallery with length east and west than in the case of one with its length north and south. Without any screens a north and south gallery would have the sun on the west and east walls in the morning and afternoon respectively, and for the whole day on parts of the north wall. For the purpose of experiments on methods of overcoming these difficulties the model was turned through an angle of 90° and transverse screens were fixed between the roof ridges (Fig. 3). Various distances between the screens were tried, and they were hinged at the top so that the lower edges could be pulled towards the south. In this way a given area of screen is somewhat more economically used than when in the vertical position, and light from the north part of the sky is rather more used than that from the south part. The illumination towards the south end of the gallery is thereby also made practically equal to that of the north end. The general results are very similar to those obtained with the model when its length was east and west.

Circumstances have not yet permitted the construction of roofs on these lines to be undertaken.

(III.) SPECIAL BUILDING FOR ILLUMINATION EXPERIMENTS.

There are so many different problems of importance, in which illumination is one of the governing factors in architectural design, that it has been decided that an Illumination Laboratory will be well worth its cost. The design of the daylight illumination of buildings for instance has been in the past inevitably based on rough and empirical rules, and, again, there are practically no data available for determining the change which should be made in a design found suitable for a building with a given orientation, in order to adapt it to a different orientation. The seasonal change of the daylight factor applicable in this country to different aspects has probably not been experimentally determined. Other architectural problems in connection with daylight illumination awaiting more detailed investigation are measurements of diversity factor, on which to found recognised limits, the correlation of window height with width, and also spacing with width of room, the proportions of lighting areas, the height and design of skylights, questions of lateral lighting, the effect of neighbouring buildings in diminishing the effective illumination, and the measurement of reflection ratio of building materials. Other problems arise from the study of corridor lighting and measurements, of the effects of obscuring, and prismatic glasses.

It is obvious that it is impossible to carry out much work of such a nature in ordinary buildings, which are required for use as offices or for other purposes. The effects of variation of dimensions or decoration under both natural and artificial lighting conditions cannot be properly studied in such circumstances.

Realising that improvements in knowledge on which design is founded may be expected to result in considerable and occasionally in great economy, as it is of the greatest importance, for instance, that valuable building sites should be developed to their utmost capacity, the Treasury have sanctioned expenditure on the construction of a building for carrying out illumination experments. It is expected that in most cases, especially for daylight measurements, scale models will suffice, so that the most convenient absolute size can be chosen. The building itself is merely a glass roof structure 60 feet by 30 feet by 17 feet to the gutters, supported on 10-inch by 7-inch stanchions. It is intended to build up the experimental models out of wood and canvas underneath it. In order to avoid expenditure which was not absolutely necessary, the work will be begun without filling in the vertical sides of the building with glass. Whether the disadvantage of not being entirely wind and weather proof will be very serious remains to be seen, and eventually it may be found desirable to enclose it completely. The ground is of concrete with a slight slope to the sides. Into it battens are dove-tailed at 4 feet centres in both directions, to which the models can be screwed down. Provision for the supply of electric power is also being made.

The building will be large enough to permit of several models being tested together. The use of turn tables will enable direct and definite figures to be obtained on such subjects as the relation of daylight and other factors to compass direction.

The building will be available for the experiments carried out on behalf of the general public, and it is hoped that it will prove not the least useful part of the plant of the Photometric Department of the Laboratory.

Reviews

THE LEGACY OF GREECE. *Edited by R. W. Livingstone. The Clarendon Press.* 424 *pp.* 7*s.* 6*d.*

This book, which for the first time gives a succinct account of the achievements of the Greeks in politics, science, literature, and the arts, is a valuable help to the understanding of the sources of European culture, and there is no section of the community to whom it should make a surer appeal than to members of our profession, as architecture is the very field of activity in which the continued influence and authority of the Greeks is most apparent.

Eleven distinguished writers each contribute one chapter upon a special aspect of Greek civilisation, and the result is a volume far more authoritative than could possibly have been produced if a single author had tried to embrace the whole theme himself. Professor Gilbert Murray has an introductory chapter on " The Value of Greece to the Future of the World," and the Dean of St. Paul's contributes an essay on the religion of the Greeks, which is marked by his usual vigorous style. Professor Burnet writes on philosophy, Mr. R. W. Livingstone on literature, and Mr. Arnold Toynbee on history, while Mr. Alfred Zimmern gives a penetrating study of the political thought of the fifth century B.C. But perhaps the chapters which are most likely to be received by the average reader as a new revelation will be those dealing with the scientific achievements of the Greeks. While Euclid and Pythagoras are, of course, household words, few people realise the progress which had been made in astronomy, physics, biology, and medicine. Sir T. L. Heath, Professor D'Arcy W. Thompson, and Mr. Charles Singer enable us to judge the extent of such progress and give information which must cause even the already convinced Hellenist to increase his reverence for the intellectual genius of this people. Professor Percy Gardner writes on " The Lamps of Greek Art," and the concluding chapter on architecture is contributed, as is fitting, by Sir Reginald Blomfield. " The Greeks of the age of

Pericles," he says, " wanted neither revivalism nor revolution ; they moved forward, without haste or anxiety, on traditional lines, and they were able to do so because their art was so interwoven with their life that, in the plastic arts, they could no more have changed their methods of expression than they could have changed their manner of speech. That high outlook is lost, and hardly to be recovered under modern conditions of social life and political government. . . . Yet the Greek ideal remains. In our fitful fever of honest intention and wrong judgment, high endeavour and point-blank commercialism, Greek art, the art of Pheidias and Ictinus, is still the wise mother to whom we must return."

This excellently produced book has wisely been issued at a popular price.

A. Trystan Edwards [*A.*].

HOUSING BY EMPLOYERS IN THE UNITED STATES. *By Leifur Magnusson. Bulletin of the United States Bureau of Labour Statistics, No.* 263. 8*o., Washington,* 1920.

This book is one of the many Bulletins of the United States Bureau of Labour Statistics, being No. 263 of the series. It purports to be a study of the best and most representative work carried out by employers in the housing of their workpeople. To the student of statistics it may be of interest, since there are some 130 statistical tables ; to the architect, and particularly those interested in housing, it leaves much to be desired.

One is perhaps prone to regard everything American as the last word, but a study of this book leaves no doubt but that America could learn much both from this and European countries in the way the housing of the workers should be conducted ; American architects, it would seem, have not been called in to advise employers ; in fact, it is clearly stated that the possibilities of architecture and town planning have been neglected. Evidence of this is apparent in reading the book, the word architect is not even mentioned.

The investigation embraces mainly the cotton mill towns of New England and the Southern States, and the coal, iron and copper mining districts and steel towns scattered over the whole of the States—from North to South and East to West, an area of some thousands of miles, surely an investigation of unusual magnitude, and undoubtedly conducted with care and attention.

Town planning in the greater number of cases does not exist, it is usually village planning, and as such is just left to turn out, with resulting disaster ; but where large interests are concerned and regular community towns developed, then town planning does come in—usually of the ordinary rectangular type as being the most economical, though where sites are hilly and difficult, the contours have perforce to be engineered, resulting in less formal and more interesting lay-outs. On paper many of these irregular lay-outs look right, but they do not appear to have been well carried out.

Streets are wide, badly paved, if at all, and lacking provision for parking, trees and the like ; alleys, fifteen to twenty feet wide, are the rule at the backs of the houses for sewage and refuse collection ; in one town it is suggested that the main streets shall be grass, with side walks, and the traffic confined to the alleys—its success would seem rather problematical.

There is a good deal of race segregation, the negroes in many cases faring for themselves both as to housing and housekeeping, and the same may be said of much of the imported European labour, the employers in the main providing for the skilled workers.

Of the types of houses provided, 48 per cent. are detached dwellings, 35 per cent. semi-detached, and 11 per cent. " row " dwellings, the remainder being of varying types, with, in some cases, two-storey flats ; the accommodation is generally four, five or six rooms in each dwelling.

The houses as a whole are very badly planned, and their design very little better: boxlike structures with lids, and the rooms all leading out of one another ; the sanitation, when existing in any form, is most primitive, 61 per cent. of the houses have no conveniences inside, and no water, sometimes a hole in the ground or a privy at the back of the plot suffices, and sometimes there is a sink inside which is used for washing up, bathing and laundry purposes—rarely is there any drainage system.

Exception must, however, be taken in the case of the housing for the employers in miscellaneous industries, this is generally of a higher standard in all respects, due to the fact that it is situated nearer to towns, and is of more recent date.

In the more isolated districts the employer is first obliged to take up housing in order to stabilise his labour for the factories ; he does not, in the majority of cases, take it up as a business proposition, as the low profit returns prove ; but he does come perforce to take a lively interest in it, the public utilities are owned by him—in fact, it would seem he owns the whole community, providing markets, church and schools, and paying parson and teacher, and otherwise providing for the entire welfare of the worker—one only regrets that he does not also call to his aid the architect's skill, it would be greatly to the advantage of all concerned.

There is a vast amount of information in the book, but not, however, as one might have thought from the title, fraught with any great interest to the architect. The statistics are too dry as dust for him, and while the plans of the lay-out and of some of the houses are well reproduced, the photographs of the dwellings are indifferent, and in many cases distorted. A general absence of a scale on the drawings is also to be regretted.

Henry V. Ashley [*F.*].

MR. ARNOLD MITCHELL'S DISCOVERY IN DORSETSHIRE.

This statue, which is now in the Ashmolean Museum at Oxford, was discovered by Mr. Arnold Mitchell [*F.*] in a backyard in a Dorsetshire village, cloaked with dirt and surrounded by rubbish. Mr. Mitchell presumes that the figure originally belonged to a wealthy collector who travelled over the world in search of art treasures, and whose large house was filled with his "finds" and purchases. When the man died, the statue, which probably formed part of his collection, was overlooked, and purchased with a collection of oddments after the sale by the man from whom Mr. Mitchell bought it. In spite of its condition, Mr. Mitchell appreciated the beauty of the figure, and was much more greatly impressed after it had undergone a process of cleaning. The figure was almost complete. As seen in the illustration, there are small reparations to the knee, to the nose, and to the chin. It was brought to the attention of Dr. Percy Gardner, Professor of Classical Archæology at Oxford, who attributes it to the great period of Greek sculpture, dating about a hundred years later than the Elgin marbles. The subject is customary in Greek sculpture—a Mourning Woman.

Correspondence

REGISTER FOR CRAFTSMEN.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—I have read with great interest Mr. Bulkeley Creswell's letter in your last issue, in which he suggests that a register of genuine craftsmen be kept at the Institute for the benefit of those members who disapprove of employing commercial firms.

There is a growing feeling against this practice, which, as Mr. Creswell points out, only helps to support the attempt large firms are making to take our work from us. Many of us have great difficulty in finding small painstaking establishments capable of doing the best class of workmanship. We know that such establishments exist, and that these, as they do not advertise or occupy prominent sites, are able to give real value at less cost.

Mr. Creswell's proposal is practical and should receive the support of all those who value the services of genuine craftsmen as a necessary element in their work.—I am, yours faithfully,

W. W. SCOTT-MONCRIEFF [*F.*].

STONE PRESERVATION.

Heriot-Watt College, Edinburgh.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—May I throw out a suggestion, which I believe is new, as to a method for preserving decaying sandstones from further decay?

Certain compounds of alcohol-radicles with silica, when exposed to moist air hydrolyse, deposit hydrated silica in a coherent form, and thus act as a cement. The ether can be thinned with alcohol, and is a very stable body as long as it is not exposed to moisture, and if a piece of rotten sandstone is treated with it in the course of a few days the sandstone hardens up and the resulting cement resists the attacks of acids.

Unfortunately, this process does not solve equally well the important problem of preserving limestone, since, though it binds the particles of limestones together, it does not protect the particles themselves from attack.—I am, yours faithfully,

A. P. LAURIE.

Obituary

H.R.H. THE MAHARAJA OF JAIPUR, G.C.S.I., G.C.I.E. etc. [*Hon. Fellow*].

By the recent death of His Highness Maharajadhiraj Sawai Sir Madho Singh Bahadur of Jaipur, the head of the Kachhawa Rajputs, the Royal Institute loses one of its oldest Honorary Fellows. He was elected to the Honorary Fellowship in 1891, and at the time of his death his only senior in the rank was the Duke of Connaught, who was elected in 1879.

The history of the late Maharaja's life throws an interesting light on dynastic succession in the rule of the Indian princes.

Born on 28 August 1862, and given the name of Kaim Singh, he was the second son of the Thakur of Isarda, a petty chieftain related to the ruling house of Jaipur. Kaim Singh was in his teens when his father died. Owing to disputes relating to the succession, his elder brother, after bringing about his imprisonment, drove him into exile. He lived in poverty, and ultimately obtained employment as risaldar of a troop of horse of the Nawab of Tonk. Two events of this period greatly influenced his future. One was his meeting at Brindaban, in the United Provinces, with the well-known *guru*, Baba Brahmachari, whose disciple he became ; and the other an opportunity for laying his case before the Maharaja of Jaipur, Ram Singh. When the reign of that Prince was closed by his death, in September 1880, he had no heir. Colonel T. H. Hendley, the Medical Officer of the British Agency, and then acting Resident, asked him on his deathbed if he wished to adopt a successor, in accordance with Hindu usage. He replied that he could rely on the British Government to do what was fitting to fill the *gadi*. This expression of confidence is known to have been much appreciated by Queen Victoria. Subsequently, when further encouraged, he named Kaim Singh, and the nomination was confirmed by the Viceroy.

By this wholly unexpected turn in his affairs, the young soldier, who was still only 18, was given control of one of the most prosperous and important of Indian States, comprising an area of nearly sixteen thousand square miles and a population of some 2,658,000. He brought to the *gadi* high religious principles, benevolence and shrewd judgment. He showed himself readily accessible to modern ideas, especially in education and sanitation. Jaipur possesses excellent hospitals, schools and colleges and a beautiful museum, the gift of the Maharaja. His Highness's interest in education was recognised by the hon. LL.D. of Edinburgh University.

He was selected to represent the Rajputana chiefs at King Edward's Coronation, when he paid his only visit to this country.

The history of the architecture of India is indebted to the late Maharaja for causing to be published in 1890 the *Jaipur Portfolio of Architectural Details*, compiled chiefly from old buildings in Rajputana. His predecessor founded the School of Art in Jaipur, and all the drawings were made for the Portfolio by native students from this school. The work was the first of the kind, the first instance of the head of a protected state offering to the supreme Government a technical book on architecture, which was published at his own cost, and prepared under the supervision of the late Colonel S. S. Jacob, C.I.E. The Portfolio was published in six parts, and contains 374 plates. The Maharaja presented a copy to the Institute Library in 1891.

Apart from his interest in native art and education, the late Prince was a loyal adherent to the Paramount Power; which was expressed on many occasions, both in generous services and by example.

THE RESTORATION OF RHEIMS CATHEDRAL BRITISH EMPIRE FUND

Sir Aston Webb, P.R.A., will preside at the lecture to be given in the Gallery of the Institute on Thursday, 16th November, at 8.30 p.m., by Sir Isambard Owen, on the Cathedral of Rheims, illustrated by lantern slides.

The Gallery is being lent for the occasion, and a collection will be made on behalf of the British Empire Fund towards the restoration of the Cathedral.

The Society for the Protection of Ancient Buildings is giving its help in organising the appeal, as it approves the lines on which the repairs will be carried out by the French Government, which has offered to place a tablet in that portion of the church reconstructed by the offerings of our people as a memorial to our soldiers and a tribute of affection for France. The patron of the fund is H.M. Queen Alexandra, the President is the Duke of Portland, the Chairman the Lord Mayor of London, and amongst the Vice-Presidents are the French Ambassador in London and the British Ambassador in Paris.

VENTILATION AND ATMOSPHERE OF FACTORIES

Professor Leonard Hill, M.D., F.R.S., will give one of the Chadwick Public Lectures in the large gallery of the Institute, on " Ventilation and Atmosphere in Factories and Workshops," on Thursday, 26 October, at 8 p.m. Sir William Collins, K.C.V.O., M.D., will preside. Admission will be free.

PRESIDENT OF THE SOCIETY OF ARCHITECTS

Mr. John Partridge, F.S.Arc., F.S.I., of Bank Chambers, Richmond, has been elected President of the Society of Architects in succession to Mr. E. J. Sadgrove [*F.*].

Sessional Meetings, 1922-23

MONDAYS—AT 8 P.M., EXCEPT WHERE OTHERWISE STATED.

1922.

Nov. 6.—INAUGURAL MEETING: PRESIDENT'S ADDRESS, at 8.30 p.m.

Nov. 20.—General Meeting: ILLUMINATING ENGINEERING IN RELATION TO ARCHITECTURE. By Lawrence M. Tye.

Dec. 4.—Business Meeting: Election of Members.

Dec. 18.—General Meeting: THE LAW OF BUILDING OUTSIDE LONDON. By A. N. C. Shelley, M.A.Oxon., B.C.L., of H.M. Ministry of Health.

1923.

Jan. 8.—Business Meeting: Election of Members.

Jan. 22.—General Meeting: THE LONDON COUNTY HALL. By Ralph Knott [*F.*], and W. E. Riley, R.B.A. [*F.*].
AWARD OF PRIZES AND STUDENTSHIPS.

Feb. 5.—PRESIDENT'S ADDRESS TO STUDENTS, at 8.30. PRESENTATION OF PRIZES.

Feb. 19.—General Meeting: ARCHITECTURE AND ARCHITECTS IN INDIA. By H. V. Lanchester [*F.*].

Mar. 5.—Special and Business Meetings: Election of Royal Gold Medallist; Election of Members.

Mar. 19.—General Meeting: THE HAMMERSMITH HOUSING SCHEME. By G. E. S. Streatfeild, O.B.E., D.S.O. [*F.*].

Apr. 9.—General Meeting: THE ARCHITECTURE OF PROVINCIAL FRANCE. By Henry M. Fletcher, M.A.Cantab. [*F.*].

Apr. 23.—General Meeting: THE LITERATURE OF ARCHITECTURE. By William G. Newton, M.C., M.A.Oxon. [*A.*].

May 7.—ANNUAL GENERAL MEETING.

May 28.—General Meeting: TRADITION AND ORIGINALITY IN ITALIAN RENAISSANCE ARCHITECTURE. By Geoffry Scott.

June 11.—Business Meeting: Election of Council and Standing Committees; Election of Members.

June 25.—PRESENTATION OF THE ROYAL GOLD MEDAL, at 8.30.

EXHIBITION OF BRITISH ARCHITECTURE

It has been found necessary to postpone until further notice the Exhibition of British Architecture, which was to have been opened on 1 November, in the Galleries of the Royal Institute.

IAN MACALISTER,
Secretary R.I.B.A.

ARCHITECTS' FEES FOR ABANDONED HOUSING WORK

The Council of the Institute have appointed Messrs. H. T. Buckland, Francis Jones and Herbert A. Welch to form a tribunal, whose duty it will be to examine all applications received by the R.I.B.A. from Housing Architects under the provisions of Clause E (4) of G.H.M. 61, and to act generally on behalf of the R.I.B.A. upon this matter. It will be remembered that these three gentlemen represented the R.I.B.A. during the negotiations which resulted in the issue of G.H.M. 61, and it is regarded as fortunate that they are able again to serve the R.I.B.A. and the profession.

It has been decided to charge a nominal fee of two guineas to all architects who desire the support of the R.I.B.A. The funds thus obtained will be devoted entirely to the expenses in connection with the Tribunal. All housing architects from whom applications have been received to date have been notified of this; and those who wish for support but have not yet applied should do so without delay, as a speedy settlement of all accounts is now anticipated.

BOARD OF ARCHITECTURAL EDUCATION
R.I.B.A. SPECIAL WAR EXAMINATION

The Special War Examination will be held, *for the last time*, from 11 to 15 December 1922. Testimonies of study, forms of application, etc., should be submitted by 4 November next.

Examination centres will be announced in due course.

Relegated candidates will be required to take the ordinary examinations of the Royal Institute if they desire to qualify for the Associateship.

EVERARD J. HAYNES,
Secretary, Board of Architectural Education.

R.I.B.A. ARCHIBALD DAWNAY SCHOLARSHIPS

Owing to Mr. C. S. White, of the Architectural Association School of Architecture, being unable to take up his R.I.B.A. Archibald Dawnay Scholarship, a fresh Award has been made in favour of Mr. C. H. Hutton, of the Liverpool University School of Architecture.

The Scholarship, which is £25 per year for two years in value, is intended to foster the study of advanced construction.

EVERARD J. HAYNES,
Secretary, Board of Architectural Education

R.I.B.A. EXAMINATIONS: PAST QUESTIONS

The Questions set at the Intermediate and Final (and Special) Examinations have just been published in pamphlet form, and may be obtained at the Royal Institute, price 1s. 6d. (exclusive of postage).

Candidates will find the study of past questions a great help in preparing for the examinations.

EVERARD J. HAYNES,
Secretary, Board of Architectural Education.

Competitions

OLD CRANLEIGHAN SOCIETY CRICKET PAVILION COMPETITION.

Members and Licentiates of the Royal Institute of British Architects must not take part in the above competition, because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

IAN MACALISTER, *Secretary*.

COMPETITIVE DESIGNS FOR MONUMENT TO AUSTRALIAN AND NEW ZEALAND SOLDIERS TO BE ERECTED AT PORT SAID, EGYPT.

Designs for a monument to be erected at Port Said, Egypt, to the memory of soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during the years 1916, 1917 and 1918, are invited by the Australian Department of Defence, acting for the Commonwealth Government and the representatives of the Forces named. Designs must be the work of sculptors and architects of British nationality permanently resident in Australia or New Zealand, and Australian and New Zealand sculptors and architects residing in other countries. A statue or group of statuary in marble or bronze, with granite for the pedestal, or an approved hardstone, will form the main feature of the monument. The design must embrace in its composition sculpture typifying both Australian and New Zealand horsemen. Its character otherwise will be left to the designer. Each design or model must be accompanied by a sealed opaque envelope containing the name and address of the author together with a declaration that the design or model is the personal work of the competitor, or joint competitors, and that the drawings or models have been prepared under his or their own supervision. The cost of the monument is to be limited to £11,000, of which £7,500 is to be allocated to sculpture and £3,500 is to be allocated to the pedestal, base, and steps. Designs must be delivered, free of all charges, to the Secretary, Department of Defence, Melbourne, Victoria, on or before 12 noon, on Saturday, 31 March 1923. Premiums of 250 guineas, 100 guineas, and fifty guineas, respectively, will be paid for the designs placed first, second and third in order of merit by the assessors appointed by the Department of Defence, Major-General Sir J. Talbot Hobbs (architect), G. V. F. Mann, Esq., Director of the National Art Gallery, Sydney, and G. Sydney Jones, Esq., A.R.I.B.A. (architect). The award of the assessors will be binding on all concerned. The design placed first will become the property of the Commonwealth Government. Further particulars, including the conditions of the competition in full, a plan and photographs of the site of the proposed monument, and a sketch of its surroundings, may be had on application at the office of the High Commissioner for Australia, Australia House, Strand, W.C.

In the Report of the International Conference of Architects at Brussels, published in the last number of the JOURNAL, it was stated that an official representative from Russia was present. Mr. Cuypers writes that Mr. Böker, formerly of Petrograd, and now living at Wiesbaden, spoke only as representing his friends in Russia, but that Russia was not officially represented. Mr. Böker will be remembered by many English friends as the representative of Russia at previous conferences.

Notices

The following applications for Election have been received. Notice of any objection or other communication respecting the Candidates must be sent to the Secretary for submission to the Council prior to Monday, 6th November, 1922.

AS FELLOWS (15).

ANSELL : WILLIAM HENRY, M.C. [*A.* 1900], 1 Gray's Inn Square, W.C.1 ; 60 Holland Park, W.11.

BOTHWELL : EDWIN FORBES [*A.* 1915], Union Building, The Bund, Shanghai, China.

CALLOW : CHARLES FRY [*A.* 1905], 47 Havelock Road, Hastings ; Devonshire Road, Bexhill ; 74 London Road, St. Leonards-on-Sea.

CARNELL : JOHN LAURIE [*A.* 1895], St. Clair, Gaywood Road, King's Lynn.

COLLINS : HENRY RICHARD [*A.* 1921], Edgar House, City Walls, Chester.

DITCHBURN : DAVID WILLIAM [*A.* 1908], Standard Building, Hornby Road, Bombay, India.

GOTCH : LAURENCE MURSELL [*A.* 1906], Bank Chambers, Kettering ; 23 Station Road, Kettering.

MARWICK : THOMAS PURVES, F.S.I., F.S.A.(Scot.) [*A.* 1883], 43 York Place, Edinburgh.

MIDDLETON : ORLANDO [*A.* 1895], 55 Lattimore Road, St. Albans ; Chequers Hill, Flamstead, near Dunstable.

RILEY : WILLIAM HENRY [*A.* 1906], 25 Horsefair Street Leicester ; Whitethorne, Evington Lane, Leicester.

RYDE : FRANK CECIL [*A.* 1888], 12 Little College Street, Westminster, S.W.1 ; "Five Trees," Oatlands Chase, Weybridge, Surrey.

SHORT : Major ERNEST WILLIAM GEORGE, C.B.E., F.S.I., S.R.E.S. [*A.* 1921], Royal Engineers Office, Bulford Camp, Salisbury Plain ; The Mount, East Harnham, Salisbury.

SOUTAR : CHARLES GEDDES [*A.* 1921], 15 South Tay Street, Dundee ; Easterbank, Barnhill, Dundee.

STRETTON : CLEMENT [*A.* 1901], Alliance Chambers, Horsefair Street, Leicester ; "The Brackley," Knighton Road, Leicester.

TANNER : EDWIN JOHN [*A.* 1911], Carlton Chambers, 12 Regent Street, S.W.1 ; 12 Hampstead Way, N.W.11.

AS ASSOCIATES (141).

ALEXANDER : WALTER [*S.* 1922—Special War Exemption], 74 Mafeking Road, Quetta, India.

ALLEN : CHARLES WILLIAM [Special War Examination], c/o Arthur W. Brewill, Esq., 1 Low Pavement, Nottingham ; 116 Mansfield Road, Nottingham.

ANGUS : ANDREW EDWARD [Special War Examination], 116 London Street, W., Windsor, Ont., Canada.

AUSTIN : LESLIE MAGNUS, A.R.C.A. [Special War Examination], Royal College of Art, South Kensington, S.W. ; 7 Rowan Road, Hammersmith, S.W.

BACKWAY : GERALD HENRY [Special War Examination], 7 New Square, Lincoln's Inn, W.C.2 ; 22 Birdhurst Road, Wandsworth, S.W.18.

BAILLIE : WILLIAM [Special Examination], 78 Park Drive South, Whiteinch, Glasgow.

BALL : WALTER FREDERICK [Special War Examination], 53 Howard Street, Gloucester.

BALL : WILLIAM ARTHUR CESSFORD [Special Examination], 73 St. James's Road, Croydon.

BANKART : HUGH CHARLES [Special War Examination], c/o Sir Edwin L. Lutyens, R.A., 7 Appletree Yard, York Street, St. James' Square, S.W.1 ; 25 Parkhill Road, Hampstead, N.W.3.

BARNARD : CHARLES DOWNING [Special War Examination], 188 High Road, Leyton, E.11.

BATHURST : LESLIE JOHN [Special War Examination], 50 Woodside Road, Wood Green, N.22.

BEAUFOY : SAMUEL LESLIE GEORGE [Special War Examination], 163 Tufnell Park Road, Holloway, N.7.

BEESTON : CHARLES NICHOLSON [Special War Examination], 206B Adelaide Road, N.W.4.

BEESTON : WILFRED [Special War Examination], 92 Falkner Street, Liverpool.

BINGE : JOSEPH WALLACE, M.C. [Special War Examination], The Oaklands, Acacia Grove, New Malden, Surrey.

BIRD : ERIC LESLIE [Special War Examination], Austenwood Lane, Chalfont St. Peter, Bucks.

BLAKELEY : TOM [Special War Examination], Town Hall, Dewsbury ; 28 Orchard Street, Savile Town, Dewsbury.

BOOKER : ALFRED VINCENT [Special War Examination], 8 Old Jewry, E.C. ; 3 Montem Road, Forest Hill, S.E.23.

BOX : HARRY EWART [Special War Examination], 54 Holland Road, Maidstone.

BRAMWELL : JOHN [Special War Examination], Royal Insurance Buildings, 9 North John Street, Liverpool ; 21 Upper Duke Street, Rodney Street, Liverpool.

BRIARS : REGINALD, M.C. [Special War Examination], "Hanover House," Tennyson Road, Luton, Beds.

BROADBENT : JOHN STEWART [Special War Examination], 36 Bruce Road, Bow, E.3.

BROTHERS : COLIN STANLEY [Special War Examination], 49 Whitechapel, Liverpool.

BROWN : ALFRED JOHN [Special War Examination], 35 Handside Lane, Welwyn Garden City, Herts.

BROWN : WALTER [Special War Examination], Ladbroke Road, Horley, Surrey.

BUTLER : BERTRAM [Final Examination], 31 Priory Street, Dudley.

BUYSMAN : CORNELIUS JAMES ALEXANDER KELDER [Special War Examination], 165 South Croxted Road, Dulwich, S.E.21.

CALEY : WALTER HERBERT [Special War Examination], 53 Queen's Road, Tunbridge Wells.

CARTER : GEORGE BERTRAM [Special War Examination], 17 Queen Anne's Gate, S.W.1 ; 24 Craigton Road, Eltham, S.E.9.

CARTWRIGHT : WILFRED [Special War Examination], 20 Cambridge Street, Loughborough, Leicestershire.

CHISHOLM : ALEXANDER MACLEOD [Special War Examination], 13 Euston Grove, Birkenhead.

CLACK : JOHN [Special War Examination], 104 Victoria Street, Westminster, S.W.1.

CLARK : SIDNEY [*S.* 1911—Special War Exemption], 10 Guilford Place, Bloomsbury, W.C.1.

CORNES : ERNEST HAROLD [Special War Examination], "Meadowside," Cambrian View, Chester.

CRICKMAY : GORDON HAYTER [Special War Examination], 75 Victoria Street, S.W.1.

CROWTHER : JOHN HENRY, junr. [Special War Examination], "Craig Lea," Moorlands Avenue, Dewsbury, Yorks.

DENT : ALWYN RONALD [Special War Examination], Grove Cottage, Bell's Hill, High Barnet, Herts.

EASTWOOD : FREDERICK GEORGE [Special War Examination], 60 King Street, Manchester.

EGGINS : FRANK WALLIS [Special War Examination], 5 Church Street, Paignton, South Devon.

ELLIS : JACK [Special War Examination], The Old Rectory, Cublington, Bucks.

FARE : ARTHUR CECIL [Special War Examination], 18 New Bond Street, Bath.

FARRIER : ARCHIBALD VICTOR [Special War Examination], 101 The Ridgeway, Wimbledon, S.W.19.

FLITCROFT : ALFRED CRUMBLEHULME [Special War Examination], 172 High Street, Bolton, Lancs.

FLUTTER : ANTHONY THOMAS [Special War Examination], 78 Cicada Road, Wandsworth Common, S.W.18.

FRANCIS : CECIL WILLIAM [Special War Examination], 15 Savernake Road, Hampstead, N.W.3.

FRASER : BRIGHT [Special War Examination], 5 Vaughan Road, Wallasey, Cheshire.

FRYER : EDGAR [Special War Examination], 46 Carter Street, Princes Road, Liverpool.

GADD : GEORGE CYRIL [Special War Examination], Town Hall Chambers, Bromsgrove ; Redlands, Marlboro' Avenue, Bromsgrove.

GEORGE : CONRAD ERIC [Special War Examination], 22 Caroline Street, Eaton Terrace, S.W.1.

GILDER : FRAMROZ NOWROJI [Final Examination], Indian Students' Hostel, Keppel Street, W.C.1.

GLASS : JAMES SCOTT, M.C. [Special War Examination], 38 Eastwood Road, Goodmayes, Essex.

GOWER : LAWFORD RAYMOND [Special War Examination], "Maes-y-coed," Shelone Road, Briton Ferry.

GRAY : JAMES [Special War Examination], 43 York Place, Edinburgh ; 113 Dalkeith Road, Edinburgh.

GUNSTON : EDWARD LESLIE [Final Examination], Alpenrose, Kidmore, Reading.

HALL : HERBERT JAMES [Special War Examination], 52 Paulton Square, King's Road, Chelsea, S.W.

HALL : MONTAGU ASHLEY [Special War Examination], 3 Silver Street, Lincoln ; Branston, near Lincoln.

HAMPTON : JAMES FREDERICK [Special War Examination], Brooker's Farm, Beltring, Paddock Wood, Kent.

HICKEY : PATRICK [Special War Examination], "Burslem House," Whitehall Road, Grays, Essex.

HOFLER : MAX RICHARD [Final Examination], 68 Cambridge Terrace, Hyde Park, W.2.

HOLDEN : WALTER FREDERICK CLARKE, M.C. [Special War Examination], 15 Bishopsgate, E.C.2 ; Salter's Acre, Gregories Road, Beaconsfield.

HOPWOOD : JAMES [Special War Examination], 20 Baker Road, Harlesden, N.W.10.

HOWITT : LEONARD CECIL [Special War Examination], 11 Agar Road, Queen's Drive, West Derby, Liverpool.

HUBBARD : GEORGE EDWARD [Special War Examination], Pleasant Stile, Newnham-on-Severn, Gloucestershire.

HUGHES : ELEANOR KATHERINE DOROTHY [Final Examination], 28 Moreton Street, S.W.1.

ILLINGWORTH : ARTHUR JOHN ALEXANDER [Special War Examination], P.W.D. Secretariat, Bombay, India.

JARVIS : HAROLD EDGAR [Special War Examination], No. 1 Bungalow, Oxford Road, Banbury.

JENSON : ALEXANDER GEORGE [Final Examination], 20 Carpenter Road, Edgbaston, Birmingham.

JOHN : LEWIS [Special War Examination], Llantrithyd, near Cowbridge, Glam.

JOHNSON : WILLIAM ARTHUR [Special War Examination], 32 Brantwood Terrace, Morton, Manchester.

JONES : THOMAS EDWARD [Special War Examination], "Terfyn," Port Dinorwic, North Wales.

KEMP : LESLIE HAGGER [Special War Examination], 5 Lorrimore Square, Kennington Park, S.E.17.

KENDALL : CHARLES, M.C. [Special War Examination], The Gables, Ossett, Yorks.

KENNEDY : COLIN WHITE [Special War Examination], 13 Carlton Road, East Sheen, S.W.14.

KILLENDER : HENRY CLAUDE [Special War Examination], 16 Lord Street, Liverpool ; 39 Merton Road, Bootle, Lancs.

KING : GEORGE EDWARD [Special War Examination], Forest View, Forest Road, Nottingham.

KINNA : KENMURE [Special War Examination], Liberty Buildings, School Lane, Liverpool ; " Iraq," Egremont Promenade, Egremont, Cheshire.

LAMBERT : FREDERICK HENRY [Special War Examination], 36 Horsell Road, Highbury, N.5.

LEVERKUS : GERTRUDE WILHELMINE MARGARET, B.A. [Final Examination], 22 Gayton Road, Harrow-on-the-Hill.

LIDBURY : GEORGE VICTOR [Special War Examination], 262 Cavendish Road, Balham, S.W.12.

LIVETT : RICHARD ALFRED HARDWICK [Special War Examination], 39 Montpelier Road, N.W.5.

LONSDALE : HERBERT GREENHALGH [Special War Examination], 10 Maple Grove, Prestwich, Manchester.

LUMSDEN : DAVID ADAMS [Special War Examination], 10A Temple Row, Birmingham.

MCDONALD : JAMES ROBERT ANGUS [Special War Examination], 38 Bede Burn Road, Jarrow-on-Tyne.

MCNAUGHT : ROBERT MACKISON [Special War Examination], British Linen Chambers, High Street, Dumbarton ; 9 Levenford Place, Dumbarton.

MCWILLIAM : ALEXANDER [Special War Examination], " Viewhill," Dovecot Road, Corstorphine, Edinburgh.

MANSERGH : BRIAN GEORGE LEWIS [Special War Examination], 42 Stanhope Gardens, South Kensington, S.W.

MARR : JOHN GIBB [Special War Examination], 2 Osborne Place, Aberdeen.

MEAGER : KILDARE STUCLEY [Special War Examination], 28 Redcliffe Square, S.W.

MILBURN : CHARLES WILLIAM [Special War Examination], c/o Messrs. Clark and Moscrop, Feethams, Darlington.

MILNER : JOHN SOWERBY [Special War Examination], 28 Craven Terrace, Lancaster Gate, W.2.

MINTY : WILLIAM STANLEY [Special War Examination], 35 Craven Street, Charing Cross, W.C.2.

MOODY : HERBERT LINE, P.A.S.I. [Special War Examination], 5 Winton Street, Ryde, Isle of Wight.

MOORE : FRANK ALLEN [Special War Examination], Knowle House, Knowle, Bristol.

NEWSUM : ARTHUR THORPE [Special War Examination], 62 Derby Road, Long Eaton, near Nottingham.

NOBLE : CHARLES [Special War Examination], 52 Old Hall Lane, Withington, Manchester.

NUTT : EDWARD JAMES [Special War Examination], 57 Holgate Road, Nottingham.

O'CONNOR : EDWARD DOMINIC [Special War Examination], Kirby Muxloe, Leicester.

PAGE : ERIC CHARLES RANDLE [Special War Examination], 32 Morden Road, Newport, Mon.

PALMER : KENNETH [Special War Examination], 7 Beech Avenue, Gatley, Cheshire.

PARKER : JOHN KILGOUR [Special War Examination], 34 Bedford Square, W.C.1.

PIGGOTT : JOHN ROBERT [Special War Examination], 61 Hartshill Road, Stoke-on-Trent.

PIKE : CHARLES WILLIAM [Special War Examination], Savernake House, Dorchester.

PRITCHARD : HAROLD WILLIAM [Special War Examination], 22 Stamford Street, Edge Lane, Liverpool.

QUARMBY : GEORGE GILBERT [Special War Examination], " Uplands," Glen View Road, Burnley.

RAE : DONALD CAMERON [Special War Examination], 217 Union Street, Aberdeen.

RANKINE : ANDREW [Special War Examination], 14 Beresford Avenue, Hull.

REES : JOHN FREDERICK [Special War Examination], " Brentor," 16 Fields Road, Newport, Mon.

REID : ALEXANDER SIMPSON [Final Examination], 221 Clifton Road, Aberdeen.

RICHARDS : FRANCIS AUGUSTUS, M.A.Oxon [Special Examination], 60 Tufton Street, Westminster, S.W.1.

RIDDELL : WILLARD BRUCE [Special War Examination], 79 Victoria Avenue N., Hamilton, Ont., Canada.

RILEY : HERBERT GEORGE [Special War Examination], Foxton, Leicestershire.

ROGERS : WILLIAM JELF [Special War Examination], 168 Stow Hill, Newport, Mon.

ROSS : DAVID JOHN ALEXANDER [Special War Examination], Woodside, Inshes, Inverness.

RYLE : WINIFRED [Final Examination], 16 Gordon Square, W.C.1.

SAWYER : FREDERICK JOHN [Final Examination], Nesscliff, 54 High Street, Addlestone, Surrey.

SCOTT : HERMAN ALEXANDER [Special War Examination], 134 Gloucester Terrace, Hyde Park, W.

SHEPHERD : JOHN CHIENE [Special War Examination], Gleghornie, Freshfield, near Liverpool.

SKIPPER : ERIC HAYWARD [Special War Examination], 55 London Street, Norwich.

SKIPWITH : LIONEL ERNEST [Special War Examination], 34 Bedford Square, W.C.1.

SLAUGHTER : LESLIE SCOTT [Special War Examination], 50 West End Lane, West Hampstead, N.W.

STARLING : WILLIAM LOVE [Special War Examination], " Orby Cottage," Quickley Lane, Chorley Wood, Herts.

STILLMAN : CECIL GEORGE [Special War Examination], 43 Fairfield Road, Winchester.

STRIBLING : HERBERT JAMES [Special War Examination], " Graffham," Sussex Place, Slough, Bucks.

SUGDEN : HOWARD DAVY [Final Examination], " The Heath," 2 Holford Road, Hampstead, N.W.3.

SUTHERS : STANLEY HOLT [Special War Examination], 2 Tilmore Road, Petersfield, Hants.

TANNER : CHARLES PUGET [Special War Examination], 110 St. George's Terrace, Newcastle-on-Tyne.

TAYLOR : WILLIAM LOGAN [Special War Examination], Schoolhouse, Kintore, Aberdeenshire.

TEMPLAR : WILLIAM RICHARD [Special War Examination], 106 Pembroke Road, Seven Kings, Essex.

TOMS : BERTRAM HENRY [Special War Examination], 72 Orbel Street, S.W.11.

TOWNDROW : FREDERIC EDWARD [Special War Examination], 37 Fernbank Avenue, Sudbury Hill, South Harrow.

TROUP : ROBERT JAMIESON, M.A., Croix de Guerre [Special War Examination], 14 Gray's Inn Square, W.C.1.

VINYCOMB : WILLIAM LIDDLE [Special War Examination], 3 Granville Avenue, Forest Hall, Northumberland.

WHITTAKER : GEORGE [Special War Examination], 11 London Terrace, Blackburn.

WILKINSON : HERBERT CUTLER [Special War Examination], 43, Milton Street, Nelson, Lancs.

WILLMOTT : STANLEY JOHN [Special War Examination], H.M. Office of Woods, etc., 1 Whitehall, S.W.1.

WILSON : JOHN WILLIAM GILMOUR [Special War Examination], 9 Addison Mansions, Kensington, W.14.

WINSLADE : MORRIS LESTER [Special War Examination], 4 Manor Lane, Lee, S.E.13.

WYNNE-WILLIAMS : WALTER PHILLIPS [Special War Examination], 107 East Dulwich Grove, S.E.22.

YATES : CHARLES WILLIAM [Special War Examination], 34 Gayner Road, Filton, Bristol.

YOUNG : JOHN REEVE [Special War Examination], 4 Grant Road, Wealdstone, Harrow.

YOXALL : THOMAS [Special War Examination], 8 Church Street, Burslem, Staffs.

AS HON. ASSOCIATES (2).

HUDSON: EDWARD, 15 Queen Anne's Gate, Westminster, S.W.1.

KEYSER: CHARLES EDWARD, M.A., F.S.A., F.S.A.Scot., F.R.Hist. Soc., F.R.Soc. of Litt., J.P., D.L., President of the British Archæological Association, Aldermaston Court, near Reading.

AS HON. CORRESPONDING MEMBERS (9).

ARNAUD: EDOUARD, Director of the Teaching of Construction, Ecole des Beaux Arts, 11 Rue de Téhéran, Paris (8E.).

BARBER: DONN, 101 Park Avenue, New York, U.S.A.

EMERSON: Professor WILLIAM, Director of the Department of Architecture, Massachusetts Institute of Technology, 491 Boylston Street, Boston, Mass., U.S.A.

GOODHUE: BERTRAM GROSVENOR, 2 West Forty-seventh Street, New York, U.S.A.

HASTINGS: THOMAS, Royal Gold Medallist 1922, 52 Vanderbilt Avenue, New York, U.S.A.

HÉBRARD: ERNEST, Grand Prix de Rome 1904, 23 Rue Jacob, Paris (6E.).

KOGURE: Dr. A., Professor of Architecture at the Tokio University, Japan.

PLATT: CHARLES A., 101 Park Avenue, New York, U.S.A.

STEVENS: GRAHAM, Director of the American School at Rome.

Members' Column

Members, Licentiates, and Students may insert announcements and make known their requirements in this column without charge. Communications must be addressed to the Editor, and be accompanied by the full name and address. Where anonymity is desired, box numbers will be given and answers forwarded.

CHANGE OF ADDRESS.

MR. THEODORE FYFE took up the Mastership of the Cambridge University School of Architecture on 10th October. His business address in future will be "The University School of Architecture, 75 Trumpington Street, Cambridge." Telephone: Cambridge 237.

MR. WILFRID TRAVERS, O.B.E., F.R.I.B.A., has moved his office from 8 Bedford Row, W.C.1, to 1 Featherstone Buildings, Holborn, W.C.1. (Telephone: Chancery 7932).

MR. W. A. COLE ADAMS is now practising at Totland Bay, Isle of Wight, and would be glad to act in conjunction with London architects who may have large or small works in or around this district or in Bournemouth and the New Forest.

MESSRS. PERCY TUBBS, SON & DUNCAN.

MR. PERCY TUBBS has taken into partnership his son, Mr. Grahame Burnell Tubbs [*A.*] and Mr. R. A. Duncan [*A.*]. The firm will in future be known as Messrs. Percy Tubbs, Son & Duncan, and will practise Architecture and Surveying at 10 Gray's Inn Square, W.C.1.

MR. J. HUGH GOODMAN.

MR. J. HUGH GOODMAN (Lic. R.I.B.A.) has been appointed a Diocesan Surveyor for the Archdeaconry of Berkshire in succession to the late Mr. S. Slingsby Stallwood, F.S.A.

SCOTLAND.

SCOTTISH ARCHITECT, in practice in Edinburgh, A.R.I.B.A., F.S.I., is prepared to collaborate with London Architects having commissions in any part of Scotland. Apply, Hon. Secretary, Edinburgh A.A., 14, Hill Street, Edinburgh.

FOR SALE.

The following clean second-hand books are for disposal:—Brandon, *The Analysis of Gothic Architecture*, 2 vols., 4to, 17s. 6d.; Spiers, *The Orders of Architecture*, 7s. 6d.; Cross & Munby, *Practical Notes for Architectural Draughtsmen*, 12s. 6d.; Thomas, *Surveying*, 22s. 6d. Apply Box 373, c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

PARTNERSHIP.

ASSOCIATE, young, energetic, with moderate capital, desires partnership or working arrangement with another wishing to extend practice or desirous of gradual retirement. Keen, competent, good organiser; highest references; London or Home Counties preferred. Apply, in first instance, Box 1210, c/o Secretary R.I.B.A., 9 Conduit Street, London, W.1.

A.R.I.B.A., of exceptional experience, including quantities, who has carried out large and important works, and has works in view, desires a partnership in an office with good prospects. Address Box No. 922, c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

12–14, *Dartmouth Street,*
Westminster, S.W.1.
11th October 1922.

The above Company require the services of an Architect, on a three years' agreement in the first instance, with first-class free passage to India, and home again on satisfactory termination of services. The commencing salary would be in the neighbourhood of Rs. 1,000 per calendar month, according to age and qualifications. Applicants must have had a proper professional training and experience in the design and construction of public buildings in urban areas, especially in respect of railway stations and hotels. Preference will be given to one who has had experience of such work in the tropics.

Candidates should be about 30 years of age, and single for preference.—Yours truly,

RENDEL, PALMER AND TRITTON.
R. R. GALES.

APPOINTMENTS WANTED.

ARCHITECT, A.R.I.B.A., with West-end office and practice, 20 years' experience, seeks appointment where his knowledge of finance and clientele could be used to advantage, with view to partnership, or would arrange to share office and collaborate with London or provincial architect. Apply Box 118, c/o The Secretary R.I.B.A., 9 Conduit Street, W.1.

APPOINTMENT required abroad by late Resident Architect to the G.P.O. in Egypt; A.R.I.B.A.; experienced in design of schools, shops, factories and domestic work; quantity surveyor; age 29; French, Italian and Arabic spoken; accustomed to responsibility. Apply Box 365, c/o Secretary R.I.B.A., 9 Conduit Street, W.

ASSOCIATE (26) desires position in good architectural office, South country preferred; working and detail drawings, specifications and surveys; energetic. Apply Box 363, c/o Secretary R.I.B.A., 9 Conduit Street, W.

A.R.I.B.A. (38), many years' responsible and varied experience in London and the Far East, thorough all-round man, desires appointment anywhere; ex-officer; highest possible references. Apply Box 2819, c/o Secretary R.I.B.A., 9 Conduit Street, W.

ASSOCIATE (30), with substantial capital, 12 years' varied experience, town and country, desires Manager's post with view to Partnership. Energetic and keen business man. Good designer and thorough knowledge of details and practical work, having acted as clerk of works on several big city jobs. Articled pupilage and trained in A.A. schools. Travelled abroad and held important Government post in East. Highest references.—Apply Box 50, c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

Arrangements have been made for the supply of the R.I.B.A. JOURNAL (post free) to members of the Allied Societies who are not members of the R.I.B.A. at a specially reduced subscription of 12s. a year. Those who wish to take advantage of this arrangement are requested to send their names to the Secretary of the R.I.B.A., 9 Conduit Street, W.1.

Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.

IAN MACALISTER,
Secretary R.I.B.A.